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AN OUTLINE OF A SYSTEM OF NATURAL THEOLOGY

AN OUTLINE OF A SYSTEM OF NATURAL THEOLOGY

BY THE REV. GEORGE CRABBE M.A.

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TO

JOHN GIBSON LOCKHART, ESQ. LL.D.

THIS WORK

IS INSCRIBED WITH GRATITUDE AND RESPECT,

BY HIS FAITHFUL SERVANT,

THE AUTHOR.

PREFACE.

Natural Theology, as a science, may be divided into five distinct subjects. First, the proofs of the existence of a Sovereign Intelligence. Secondly, of those attributes of the Deity which have been termed natural, viz., His unity, eternity, omnipresence, omnipotence, infinity. Thirdly, the proofs of His moral attributes, as His goodness, benevolence, wisdom, and justice. Fourthly, the evidences of a future state founded on these attributes or on His works. Fifthly, our relation and consequent duties to Him. Not that it is usual to include all these divisions in any single treatise on the subject, for each writer has dwelt upon or omitted some of them, according to the principal design of his work; whether simply to prove the existence of a God, or to endeavour to display His attributes; or to impress a sense of our dependence on Him here and hereafter. As it is the chief aim of the present essay to place, in the strongest light, the natural evidences of future state, this object will be most effectually pursued, by confining the present discussion to two of these divisions, viz.

1st: The proofs of the existence of a Sovereign Intelligence.

2nd: The evidence of a future state derived from His works.

It is clear that the first step in the evidence of a futurity is, to prove that we are under the government of Intelligence, and if it does not immediately appear that, in such an inquiry we can properly omit the previous proof of the wisdom, the omnipotence, and the benevolence of the Deity, the writer trusts that, in the introduction to the Second Part of this Treatise, he shall be able to show, that this previous step may be omitted: and if so, the evidence of a future life receives additional strength from the simplicity of plan resulting from these omissions; and by drawing the proofs immediately from the character of God's moral and physical creation, rather than from those attributes which we must previously deduce from the very same phenomena.

Perhaps it may be questioned whether, at this period especially, when a lively faith in the Christian revelation appears to be spreading widely at home and abroad, there be any practical benefit in multiplying the natural proofs of the existence of God and of another world. It may be thought that it is better that these truths should be conveyed only through that revelation which gives them an authority, without which they are liable to be wholly disregarded; and that these natural truths ought never to be separated from those revealed tenets, without which we are taught they are unavailing. But surely as a science only (and if a science, the first of sciences) Natural Theology is entitled to any improvement that can be devised either in substance or in method. Independent of this minor consideration, however, there are cases in which the only probable means of bringing unbelievers to obedience to the revealed word, is by a strong conviction, that there is a Governor of the world who requires from them, on natural principles, nearly, if not all, the devotion and obedience which his revelation enjoins—a conviction that, by renouncing the faith of a Christian, they cannot escape the duties of a Christian, nor the penalties of a future award.

When a man doubts the truth of Revelation, he generally holds very feebly the belief in an awarding God; and when the mind has proceeded so far in scepticism, it may be recalled by retracing the downward process, and the simple natural truths strongly imbibed, may become the first steps to all saving knowledge. But, admitting that it were always more practicable, as it often is, to bring a man to a belief in all essential truth through the evidences of revelation, yet it will be also admitted that there are multitudes who, on the assurance of that revelation, will retain their infidelity. There are, in every age, multitudes whose unbelief is as firm as if it were founded on truth; and if so, it can scarcely be questioned, whether we regard the good of society, or the unhappy individuals themselves, that it is far better they should be convinced that there is a just and benevolent God, than to believe in nothing: that they should have a hope and fear of the future, however erroneous their creed in other respects, than live like those who say, "let us eat and drink," and defraud and murder, if it is necessary to our interest; " for, to-morrow we die."

It has been recently contended that, the Natural Evidence for the existence of a Supreme Being is not sufficient to impart a conviction of that truth; but this is so palpably contradictory to the plain language of St. Paul (Rom. i. 20, and Acts xiv. 17) and indeed to the general sense of mankind, that it requires little refutation. The vast proportion of evil and misery in the world, on which this opinion appears to be founded, could afford no valid objection to the conclusion from contrivance and design; for if the creation exhibited only marks of cruelty, a designing Intelligence would still be inferred, and would be necessary to account for its order. But, in truth, there is no more evil than moral discipline requires. Thousands die in an impenitent state, apparently for the want of more suffering: and the world collectively is a giddy, thoughtless world, with all its chastisements.

With regard to the natural evidence of a future state I have little to observe, but that there seems to be a general impression of its inconclusiveness; whereas, it appears to the writer to admit of demonstration only short of mathematical or physical proof, because moral evidence, in its very nature, cannot be so decisive.

If, then, these two all-important questions are capable of natural proofs, and, in fact, have been repeatedly demonstrated, it only remains to assign a reason for another Treatise on the subject: but as that will be best explained in the Introduction, I shall only here state, that the proof of the existence of a Supreme Being in these pages is founded upon the principle of the original *independence* of multitudes of phenomena in the different departments of nature associated in one system; a principle clearly recognized by Natural Theologists, but not, that I am aware of, ever made the leading argument of any Treatise on the subject.

But, independent of that novelty of design which, in a certain sense, this volume may claim, and even after the rich stores opened by recent writers on these interesting subjects, a short and methodical treatise is perhaps wanted, embracing arguments both for the existence of God and of a future state, embodying the principal objections in the substance of the proof, instead of detached answers—pursuing the arguments on a unity of plan, through each subdivision, and employing the plainest language of which the subject admits.

In the following attempt to execute such a plan, the writer has borrowed somewhat copiously from some very recent publications. He conceived that any light which could impart the least additional evidence to the most important of all natural truths, would be willingly lent by their distinguished authors. He has, therefore, quoted generally from Drs. Crombie, Southwood Smith, Roget, Buckland, Prout, Macculloch, and Mr. Whewell, when the argument required illustration, and his own knowledge could not supply it. On subjects, whose attraction in a great measure consists in method, and style, and language, profuse quotations admit of little excuse; but when questions of momentous importance are debated, it would be well, perhaps, if it were more usual to strengthen the argument by passages from those writers who have treated each point in question with the greatest ability.

This little essay has received the encou-

PART II.

PROOF OF A FUTURE STATE.

CHAPTER I.

Page
Sect. I. The Argument 235
II. The Consummate Skill of the Material System... 257

CHAPTER II.

Sect. I. Inference that the Moral World is a Definite and Wise Plan completed either here or hereafter.... 306
II. Proofs that the Moral Plan is not a Provision for limited Enjoyment in this Life 312

CHAPTER III.

Sect. I. Proofs that the Moral World is a System of Moral Government commenced, but incomplete if it terminate here 326
II. Proofs that the Moral World is a System of Moral Discipline, abortive if it terminate here.......... 350
III. Belief in a Revelation on Evidence which cannot be controverted by the Believer, a presumptive Proof of a Future State 389

CHAPTER IV.

Sect. I. Proofs that there are incongruous Faculties in Human Nature, if there be no Future State..... 404
II. Proofs that the Human Mind would not be fully developed except through the Belief in a Future State.. 418
III. Whether the Moral Scheme, if incomprehensible, may not be complete although it terminate here.. 433

Conclusion.. 438

CORRIGENDA.

Page 15, in the note, put a comma between " half" and " quarter."
16, line 1, for " distinct" read " independent."
25, ... 6, add " *blind*" before " *necessity*."
33, ... 11, add " increase" after " and."
40, ... 15, for " evidence" read " treatment."
48, ... 16, instead of " previously" read " between the Creation and.'
69, ... 9, for " this" read " some."
71, ... 5, for " conalus" read " conatus."
86, ... 20 and 21, dele " but" " still" " would" add s to " account."
89, ... 2, dele " but."
104, ... 17, after " causes" add " of higher grades."
106, ... 1, for " mounds" read " monads."
152, ... 10, add a period after " rain."
214, ... 4, for " eternal" read " innate."
300, ... 8, from bottom, after " than" add " to avoid."
343, ... 4, add " as" to the beginning of the line.
346, ... 13, for a period after " nature" place a simicolon.
361, ... 12, for " Quintus" read " Marcus."
384, last line, for " exceptions" read " objections."
389, line 5, after " that" add " as such."
395, ... 18, after " by" add " such."

PART I.

PROOF OF THE EXISTENCE OF A SUPREME BEING FROM THE COOPERATION OF INDEPENDENT PHENOMENA IN ONE DESIGN.

INTRODUCTION.

IT is one of the most singular circumstances at this period of great intellectual proficiency, that the important question of the existence of a Supreme Intelligence, on natural principles, is apparently not yet decided. Notwithstanding the many abstruse works that have been written to prove the Being of God, and the vast mass of recently discovered facts by which such argument is sustained, many of the most acute reasoners on the continent profess Atheistic, or, what is virtually the same, Pantheistic opinions; and no small number of our own countrymen are silent converts to the same doctrine. On this strange want of decision of a point which common sense settles without difficulty, a question naturally occurs: Cannot the argument be brought to such a crisis that there shall be universal assent or dissent? It appears to the writer, that the undecided state in which the natural evidence is left, arises from the want of a common principle of debate. If it could be ascertained first, where the *jut* of the question rests; and it were further agreed to argue on that ground only, the controversy must come to some decisive conclusion. But if a number of different proofs, *à priori*, *à posteriori*, metaphysical and physical, be brought into the debate by both parties, and opposed, not argument to argument, but collectively, the strength may be vastly superior on one side, but yet it may be to a spectator as a drawn battle.

The first question on this subject then, is, Where lies that principle of argument which both parties would acknowledge as the true ground of controversy,—as containing in itself the vital point of the question? It is easy to shew where it is not. It does not lie in "the high *priori* road," for there the contest is endless, and the community at large scarcely capable of understanding a single proposition. It has long been decided, that the *à posteriori* argument is the proper ground of the debate: but this in its largest extent is still too wide for the hoped-for decision. There must be some particular proposition or propositions which contain the kernel of the proof; and if it were agreed to confine the discussion to these, then such a principle of argument would be necessarily followed by some decisive result. To say that this point of debate should be purely physical, is palpably erroneous. It should of course be deduced from, and supported by, physical facts; but all such physical proofs must appeal to general principles, and if they be not axioms, they admit of some dispute, and thus introduce some metaphysical discussion. But the propositions may be so plain and clear, that the question cannot remain undecided. Surely then such a concentrated argument might be found.

It may be said that this course has been virtually adopted by all the writers on Natural Theology; and that there is a sufficiency of fact and argument in many recent works on this subject to decide the question in every unbiassed mind capable of understanding them fully; and this is entirely admitted. But the method adopted has not been such as to produce universal assent. The subject is not brought to an inevitable decision, as it probably might be, by the method here suggested. There is much more atheism even in this kingdom than the public are aware of.

That these admirable works have not apparently produced that general assent, for which they contain ample materials, is, I think, to be attributed to this want of simplicity of plan.

While the scientific and logical reader understands and appreciates every valid argument, and can arrange in his own mind this multifarious evidence in one consistent scheme, those unaccustomed to abstract truths are confused by the depth and variety of the mass of testimony.

They cannot commence with the profound metaphysical considerations which are involved in the principles of this sublime science,* nor can they always unite distinct propositions, or identify the same under different enunciations; so that the very splendour of the combined proof, in which the scientific eye rejoices, oppresses an unpractised vision; and hence it is, that amidst proof far more solid than Paley's justly celebrated work contains, there is probably on the whole less conviction produced in the minds of the community in general, (I mean, where a doubt existed,) than by his treatise. Although there are therefore in these noble works individual arguments sufficiently decisive, yet, not proceeding on the principle of unity and simplicity of plan, they do not bring the point to a decisive issue. Paley's Natural Theology is indeed distinguished by the most admirable simplicity and unity of design, and by many detached proofs equally clear and convincing; but there is unfortunately a defect in the first principles, on which the whole conclusion is founded. The consequence of which is, that we may admit all he asserts to be true, and yet ultimately question his inference. He has not gone sufficiently far into the first principles of the inquiry. The hope, then, of bringing the argument to a point at which some decision *must* ensue, may perhaps be allowed as a fair plea for another Essay on Natural Theology; for attempting a treatise which shall preserve as much of the simplicity of plan which distinguishes Paley's work, as a more solid and comprehensive argument will admit. Such is, briefly, one portion of the design of the following pages.

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* See Dr. Crombie's Natural Theology, vol. i. chap. 1.

But there is another motive for this attempt. There is a strong conviction in many minds that some theories of physical or natural formation have been dismissed by theistic writers rather too hastily. There is, for instance, an increasing persuasion in inquiring minds, that there are in nature certain spontaneous organizations:[*] at least that there has never been full and satisfactory proof that such phenomena do not exist to a limited extent. I do not allude to the supposed formations in the phials of Mr. Cross, but in the laboratory of nature. This entitles the subject to a place in all such investigations. The nebular theory of La Place has also recently gained strength from the admissions of two or three of our leaders in science; and if we dare not affirm its absolute truth, it can no longer be treated as visionary.[†] These circumstances would alone sanction another view of the evidence. But, strong as the facts are to which the writer refers, he wishes distinctly to disavow all intention of deciding on the validity of the hypotheses to which such facts have led. It is as atheistic evidence that they are here impugned. We may, however, admit *hypothetically*, that nature has powers acting as secondary causes that were unsuspected till recently, and thus meet the atheist in his strong holds.

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[*] Dr. Macculloch has given some very strong reasons against a denial of such spontaneous productions, in his posthumous work on the Attributes of the Deity.

[†] This theory is said, in a recent number of the Edinburgh Review, to have been physically proved by M. Comte.—Edinburgh Review, No. 136, 1838.

I have said that it was my wish to combine the unity of plan which marks Paley's Theology with a more sound and comprehensive proof than that delightful work affords. It is necessary to explain in what respect Paley's proof is deficient. It will probably be at once admitted by all, that, as far as his principle goes, he has executed it in a manner that has rarely, if ever, been equalled. In united strength and clearness of argument, and in aptness and dexterity of illustration, he is indeed almost matchless; but in such momentous discussions, the important point at last is validity of proof, and here it is now generally admitted that the master has failed.* His proof is too simple to be effective; not because he has omitted those abstruse metaphysical points which properly precede the physical evidence, and which are treated with such consummate skill in Dr. Crombie's Natural Theology; (for it is not necessary in all cases to take up the subject quite so high;) but because he has imperfectly treated his own proposition, viz.: That the phenomena of order and fitness are infallible indications of design. He premised that he had only to shew unequivocal instances of order and mutual fitness in the works of nature, to bring an instantaneous assurance that they proceeded from a Sovereign Intellect; whereas this is the very point that many atheists deny, who fully admit the aptitude and order. It was necessary, therefore, to the completion of such a proof, that he should have not merely asserted, but verified this proposition. His evidence rests on the strength of the assertion, that order can be the product of intellect only—an assertion which itself requires to be substantiated. The arguments against the necessity and eternity of that order (inconclusive in themselves) are not stated as necessary to enable us to infer design; but the design is assumed from the order of the phenomena, and the objections answered, on the strength of that assumption: the consequence is, that those readers who do not see this, his leading position, in the light of an axiom, are not convinced by his argument. As an instance of the truth of this charge, if the reader turn to Chap. ii.

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* The defect in Paley's argument was, I think, first explained in the Quarterly Review, No. 101, in the article on Dr. Crombie's Natural Theology.

of his Natural Theology, he will find that the eternal succession of the human species is denied, on the principle that the *design* it manifests is not evaded by lengthening the chain of parentage to eternity. But this conclusion is founded upon the assumption, that because there is order and fitness, there is necessarily design, which is, as I have said, denied by his opponents; for if they granted that point, his argument would be unassailable.

Such, then, being the insufficiency in Paley's proof, it may be asked what supplementary argument is required to remedy the defect, and establish the proposition, — that the phenomena of order and aptitude require an intellectual cause?

In adding what he conceives to be the completion of the proof derived from order and fitness, the writer has only placed, in an unusually prominent light, a clause in the argument for design, which has been often expressed, and must always have been implied even by Paley himself, viz. that *the several parts constituting any system of order and adaptation, were originally independent of each other.*[*] It is only by premising this original independence, that the inference from choice can have any basis. If there were not a previous absence of all necessary connection between the parts of any harmonious whole, there could be no evidence of choice, nor consequently of design in the union of those parts.

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[*] This constituent clause in the proof of design has been distinctly recognized in several recent works on Natural Theology; in Dr. Crombie's Natural Theology, chap. ii. sect. 2, 4, passim; in Dr. Macculloch's Attributes of the Deity, vol. iii. chap. xlvii. p. 240; in the Introduction to Dr. Chalmers' Bridgewater Treatise; in Mr. Whewell's Bridgewater Treatise, chap. xiv.

If the existence of a Supreme Being be premised, it is not meant to assert that any thing can be independent of him. The independence here signified is when one thing, not necessarily by its nature produced by or joined to another, minutely corresponds with it; or, in other words, when many correspondencies occur without any associating physical law: and if this be proved in instances too numerous to admit of a chance affinity, we justly infer that the union or connection was produced by a power *ab extra;* and the nature of the uniting cause is inferred from the phenomena. As they exhibit order, we ascribe it to intelligence. That a point so obvious will be disputed is not probable; but as this is that portion of the popular proof of design which forms the principle of the present inquiry, it may not be altogether useless to shew its necessity, by separating the common argument for design into

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xvii. xviii.; and doubtless in many other works which the writer has not seen, or which have escaped his memory. The only novelty which he claims for this view of theistic evidence is, that the independence, instead of the correspondence of the different parts, is made the leading principle of the argument.

its two legitimate clauses. The assertion that order and fitness must proceed from intelligence, used as an argument for a Supreme Being, contains the two following positions, one expressed, the other implied:

1st: That there are this order and fitness of parts in the works of nature. This is always expressed.

2nd: That the parts were originally *independent* of each other. This is always implied, but not very often expressed.

First: That there are in nature order, adaptation, and relation of means to ends.

So important to the argument have these facts always appeared, that their elucidation has constituted almost the sole object in many works on Natural Theology. It is the striking display of this order and adaptation in nature, that, as I have said, distinguishes the celebrated work of Paley. That there is such adaptation is the one position, to the establishment of which almost all his beautiful examples are enlisted; which position has lately received a vast accession of new and splendid illustration, according to the advance of the natural sciences, in the Bridgewater Treatises. But it is not an unfrequent remark, that, deeply interesting as multiplied examples of order and fitness are whenever they are found, they bring no additional conviction to the mind of the existence of God, and for this reason,—the harmony and relations of organized nature are so palpably evident, that we have but to open our eyes to see many more examples than are necessary, to shew us that the universe cannot be a work of accident or planless confusion. Even a straw, or a blade of grass, well known and considered in all their bearings, would alone convince us of that truth. Indeed, so evident is this position, that no atheist in modern times disputes it; on the contrary, atheism ascribes this order to a cause that implies order in its very nature, viz. a law or principle; and, resting in that supposed cause, the more perfect regularity these examples display, the more they confirm him in the belief that they are not the works of will or choice, but of arbitrary and necessary principles in nature itself.

But the second clause in the theistic argument of design, which, though always implied, is not always expressed, directly meets such objection, while it gives to each example of aptitude the complete indication of an intellectual origin, viz.

Secondly: That the constituent parts of this order and adaptation were originally *independent* of each other.

This is an essential clause in the proof of design. If the several parts were not independent, there could be no indication of intellect in their junction. This independence is necessarily implied in the argument of design, and has been often mentioned as well as implied, yet it requires to be *impressed*; for it is precisely through the assumed *dependence* of the phenomena that the schemes of modern atheism have an appearance of consistency; and some very ingenious theories which, though by no means essentially atheistic, may be used atheistically, (as the nebular hypothesis of La Place, and the community of species of Lamark,) are especially founded on the principle of the *necessary connection* of diverse natural phenomena in one plan. Moreover, this clause of independence alone meets the most consistent form of atheism, which is so prevalent on the continent at this period, viz. Pantheism. This atheistic theory is founded on the principle that all nature is a varied unity, and on the assertion that we cannot prove this unity is not God. We must therefore disprove or confute the unity of nature, in order to meet this assertion. But this would never be done by accumulated instances of correspondence and adaptation only, throughout the several parts of nature, even if the examples were multiplied *ad infinitum*. The reply would be: "Yes, doubtless, the parts of a varied unity correspond. It were strange if they did not." There is, therefore, no progress made against the pantheistic hypothesis, as long as we disprove not his leading principle, — that nature is a great unity. A million instances of the nicest correspondence, urged alone, do not bear upon this point. One actual independence meets it. A few instances of decided independence, that is, as many as are necessary to remove the correspondencies from all suspicion of a chance concurrence, entirely overthrow it. These circumstances render it expedient to dwell upon the evidence of *independence*, and not correspondence only, in the constituent parts of any combination adduced as an example of design. If it be contended that this argument is not necessary, because every law of nature implies a lawgiver, this assertion is easily evaded by the atheist, by merely calling the regularity of the phenomena not a law *of* nature, but a principle *in* nature. And if it be further asserted, that every regular arrangement bears in its very order a testimony of design, we would ask, if he who argues thus would be satisfied to rest his evidence of a God on the regular phenomena of gaseous compositions,* or the peculiar rate of gravitation, which is inversely as the square of the distance, or on any other single orderly principle in nature? If not, then he admits that order and regularity are not alone sufficient proofs of design. I do not mean that such a simple exhibition of order, rightly considered, affords no proof of design, but that it is unsatisfactory, and denied by the pantheist; whereas, if two simple and distinct causes contribute to one end or purpose, the proof is not merely stronger, but of a different kind. It is a union of palpable independencies. If it be said that though order and regularity may not alone indicate design, yet that aptitude does, it will not be denied that all the virtue derived from the argument of aptitude, must rest on the natural independence of the parts adapted; for, as it was observed before, where there is no choice in the selection, there is no indication of mind in the composition. But almost every accession to our knowledge of nature shews the intimate connection and mutual influence, instead of the independence of nature's works; for instance, the nebular hypothesis (all but admitted by the scientific), if valid, accounts for numerous and nice supposed independent adjustments of force, quantity, and direction in the planets, by the simple law of gravity acting upon gaseous matter scattered irregularly. Not that this theory would explain more than the framework of the planetary system, but it would preclude the necessity of much independent arrangement, which, on the supposition that solid globes were projected at a given time round the sun and each other, must have been *calculated* by intelligence.* And where this theory leaves creation, it is in part taken up on the same dependent principle, by that of identity of species, which, though void of solid evidence, is too plausible to be omitted. If this hypothesis of Lamark were valid, it would prove that there are no specific differences in the animal or vegetable kingdom, but that these are only the greater or less developement of one plan in each department; and thus the numerous independencies of the old system would apparently be reduced to two, viz. the animal and vegetable *eidolon*. For these reasons, it is more especially desirable at this time to point out the proofs of the *independencies*, rather than the harmonies of nature; the latter are palpable and unquestionable.

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* Gases combine only in equal, double, treble, or half-quarter, and such like parts, never in fractional relations of their respective compounds.

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* The term *calculated* is here used as the word nearest to the meaning, not as applicable to the Almighty Mind.

Pursuing then the design that has been stated, the following argument is founded upon the principle, that *the order and mutual aptitude of independent things must have an intellectual cause;* which position comprehends both the expressed and implied causes in the argument of design.*

Of course the strict independence of these constituent parts is premised, and that the number of co-operating circumstances is sufficient to preclude the possibility of chance† occurrences.

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* It scarcely requires reflection to acknowledge the truth of this position. It is evident in all cases where the things so corresponding *had a beginning;* and that multitudes of independent correspondence on this globe had a beginning, is now unquestionable.

What has been thus briefly advanced, will be still more clear, if the reader call to mind (and who cannot?) the exordium of Paley's Natural Theology.

In reflecting upon the similitude of Paley, between the works of creation and art, we cannot but perceive that, as far as the argument of order and aptitude extend, the analogy is perfect; and if it be an axiom, or self-evident, that order and aptitude, in all cases, must be the work of intelligence, then indeed we have only to exhibit the evidences of such relation in the works of nature, to come to the immediate conclusion, that they derived their existence from a designing Mind. But if this inference from aptitude be not an axiom, but a point which requires proof, then some other considerations are requisite besides the evidences of fitness and regularity, before the conclusion can be confidently drawn. It is already stated what supplementary proof appears to be wanted to make the argument of design completely valid, viz., a proof of the *independence* of the several parts which constitute the order and fitness of the machine, whether artificial or natural. In the former case, I mean the artificial machine, there can be no question as to this original independence of the several parts. Paley might well omit this consideration in his type. It is evident at a glance, that such an instrument as a watch, even if the observer had never seen one before, was composed *ab extra;* that the steel, and the brass, and the dial, and the glass are different substances from different mines and manufactories; and that one wheel or screw did not make another wheel or screw: but the question is, whether Paley had a legitimate right on these premises only to take such independence for granted in the works of nature; whether the counter types, the human frame, or a flower,* or an insect, are composed of parts so evidently independent as well as corresponding, that it is quite unnecessary to prove the impossibility of the allied parts combining by some natural law. So far from this being self-evident, the more we know of nature, the more we discern the extensive connection of part with part, that is, the derivation of certain natural phenomena from others of the same or a different kind: and in the organic world we see the revolution of one part from another, by a principle as invariable, if not as symmetrical, as crystallization. The substances in nature's machines, unlike the watch, although not the same, are yet of the same kind, whether animal or vegetable ; and a new claw, and even a new head, furnished with eyes, is seen to grow from a mutilated trunk in the lower grades of animal life,* and apparently by a virtue in the trunk as innate as that which causes the ramifications of the *arbor Dianæ*. It would be a bold assertion, then, to say, that no examination into the original independence of these substances is requisite ; that the parts never could have come together without collocation, merely because they correspond. Observe a mushroom spring from the ground ; note its unity of plan and homogeneous substance:—could it be confidently asserted, without examination, that to one part, the head or the stalk, the other could not possibly be annexed by one and the same natural principle? If the one part necessarily sprang from the other, that is, by one law, their union and correspondence is no indication of a junction *ab extra*.

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† There is scarcely a visible atom that has not more concurrences involved in its nature, condition, and relations, than the utmost limits of what we call chance could produce. Hume, the ultra sceptic, very candidly says, "Chance has nothing to do with the formation of the universe."

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* The flower, for instance, which marks the great divisions of the day nearly as accurately as a watch.

There is another essential difference between the natural and artificial machines. In the machinery of nature, the inseparable union of part to part is the effect, not only of that immediate virtue which appears to evolve limb from limb, but of a great general principle, by which all existing organic creatures are naturally combinations, similar to their parents; by which single principle we can alone fully account for the union of the diverse parts of any and every individual now existing. It is evident, then, that before we can deduce the inference of design from such correspondence and aptitude of parts, we must, at least, inquire how this principle itself commenced; and this case would alone refute the supposition, that the phenomena of order and correspondence bear, in their very front, the proofs of a Designing Cause; for we have, in all these cases at least, to trace back this principle to its origin. And Paley felt the necessity when he put the supposition of a series of generating causes, and was driven to a metaphysical answer, which involves a *petitio principii*. If we had not any other proof of a beginning of the series of organic creatures than that afforded by the consideration of their order and correspondence, this would scarcely overbalance the strong fact, that each living machine is physically accounted for in every part by its predecessors.

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* In the genus *Helix*.

Again, if there be any spontaneous formations, it would be evident that there are in nature powers adequate to the organization of the first steps in the series of some animals of a low grade: but if this be a fact, who shall venture to say, without examination, what are the limits of such powers when brought together by circumstances? If the principle be once authenticated in the lowest organic step, the inference might be unlimited, extending to all organic existence.

How material is it then to inquire into the original independence of the various parts of the great system. How material to build the inference on such evidence as would embrace even such a discovery as spontaneous generation, or any possible facts that the extension of our knowledge might hereafter bring to light. Therefore, I repeat, it is necessary that to the proofs of correspondence and fitness, we add those of the *independence* of parts, and the more so as the latter point is not only less obvious than the former, but comparatively seldom exhibited. In short, the design of this essay is to work out on a separate principle that original independence in the phenomena of nature, which has been generally considered as involved in the order and correspondence, or as too obvious to constitute more than a collateral argument. But if there be any truth in what has been observed, it is evident that this independence is not so certain as to preclude proof.

Finally: So far from dispensing with one of the multiplied examples of the correspondencies in nature detailed in our noble works on Natural Theology, we covet more and more; for the conclusion from the argument of independence rests entirely on the certainty that there are such correspondencies. If the mutual aptitude and relation of the separate parts was not demonstrable, of course no inference whatever could be derived from their independence.

Now it is by shewing that the order of nature consists of independent parts, and therefore can proceed only from design, that the writer believes that a proof of a Sovereign Intelligence may be made conclusive; and this is that single argument which he proposes as the ground of debate, and as necessarily leading to a decisive conclusion.

CHAPTER I.

SECTION I.—*Necessity or Design the only Alternative.*

THE present phenomena of nature were either the same from eternity, or they had a beginning. That the present order of nature on this globe was not eternal, is scarcely questioned, but will be proved hereafter.

If it had a beginning, it came either by *chance*, or by *necessity*, or by *design*. The human faculties cannot conceive a principle of production but what is included in one or other of these.

That chance should ever have been alleged by a rational being as a principle from which a system of the most exquisite order originated, is strange; passing strange, that it should have been repeated and opposed as if it were the critical point on which the great question depends.

When Hume, the most sagacious and sceptical of atheists, admitted that chance had no part in the formation of this world, it was needless to mention this principle again, except to explain the nature of design. Accordingly, this is the point of view in which chance has been chiefly spoken of in recent works of Natural Theology—merely as illustrative of design.

The real and primary question between the theist and the atheist is, whether the present order exists by *necessity* or *design?* This is the whole ground of the controversy,—and here the issue is joined.

Previous to the actual discussion, it may be well to mention a strong presumptive evidence against the principle of necessity—against the supposition that the phenomena of nature have a necessary order and correspondence, viz. we can assign no reason why there should not have been an entire negation of all things. There is nothing necessarily existing but space and duration: and it is maintained by the metaphysicians, that even this necessity exists only in the apprehension of the human mind. An entire negation was (if we may so say) the most natural supposition antecedent to the experience that something is: for though it follows from the existence of natural phenomena, that there must be an Intelligent First Cause, yet but for the existence of these phenomena there is no ground to conclude the existence even of God—a universal negation is, *à priori*, the most natural and obvious supposition. Experience alone has contradicted it; but they who have reflected on this truth for a while, and observed the exceeding

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ease and naturalness with which the mind acquiesces in the antecedent probability of a universal negation, have found themselves beginning to wonder that there is any existence. This is the state of mind to enter upon this argument. People who have not reflected thus, enter upon it with a preconception of the necessity of some existence, and this view opens the way to an admission of the necessity of all that exists now. This is, however, only presumptive evidence: we shall meet the atheistic principle of necessity directly by the argument described in the preceding pages, and shew that there are in the existing phenomena of nature multitudes of connections between things not associated with one another by any law of nature, or common physical cause, but yet corresponding and co-operating in one design: as the whole meteorological system with the animal system—each governed by laws entirely dissimilar, and yet united not only in the complex function of respiration, but in the senses of sight, hearing, smell, and in the preservation of vegetable food, without which the animal existence would be extinct. The connections and harmonies of nature being obvious, we oppose to the alleged necessity of their co-existence and co-operation, the proof of their original independence.

SECTION II.—*The Argument of Independent Correspondencies.*

IF a person were to enter a room in which he saw no human being, but on a table were twelve of the twenty-four detached letters of the alphabet arranged in a straight line, and in alphabetic order, and the other twelve lying in a confused heap by their side, he would probably stake all he possessed in the conviction, that some one had placed those twelve letters in that orderly position, and that the other twelve had been cast down without any intention respecting their arrangement. And he would come to this conclusion, because, in such cases, it is a matter of invariable experience, that when mind does not interfere, no orderly sequence ever takes place, except in the most limited degree. It would be noted as an extraordinary coincidence, if three or four such detached letters should fall in alphabetic order; but then they would rarely, if ever, be found also in a straight line; and there is a full conviction in every mind, that if from the creation, twelve such detached letters were thrown from a box without any intention of their linear and alphabetic positions, such order would never have occurred, and of course the argument is made (though unnecessarily) stronger by extending the supposition also to the twenty-four. This is the argument for the existence of a Sovereign Intellect, derived from *chance*. It is inferred from the general occurrence of disorder and irregularity where no intellect directs events, that without a governing mind, the universe (if there were any existence or phenomena at all) would not exhibit regularity and correspondence of parts, but disorder and confusion. But it is not the atheistic theory called chance only that these facts impugn. We want no more evidence against this exploded hypothesis of mere chance formation than the first natural object which meets our eyes. It is of the theory of *necessity* that these facts are subversive. The very same results of experience overthrow the suppositions both of chance and necessity, for the suppositions are one and the same. The disorderly or chance position of the twenty-four letters, cast at random, is just as much the result of necessity as if they were placed by the human intellect in alphabetic sequence, and yet that necessity could never exhibit the same orderly effects. Where mind does not intervene, necessity exhibits the phenomena we call chance. It is, therefore, to the supposition of a blind or disorderly necessity that these facts are opposed. The atheist cannot, therefore, plead in answer to this argument, that all the phenomena of nature being the result of necessity, chance has no existence, and therefore cannot fairly be adduced in a proof of the nature or origin of any thing; for this would evidently be a false and illegitimate plea. Chance has a legitimate existence not as a cause, but as the effect, of undirected necessity.

We admit that the confusion in which twelve of these letters are supposed to be found, is just as much the result of necessity as the order of the other twelve. We freely admit that some mechanical cause, either in the letters, or the box from which they were thrown, or in the act that cast them out, were the necessary causes of their position, and that under precisely the same circumstances no other position could possibly have resulted: but we assert, notwithstanding, this disorder was as much the result of necessity as the order of those twelve, which were arranged by mind; yet that there is a solid distinction between a necessity that always produces order, and a necessity that always produces disorder: a distinction from which we can conclude with both mathematical and moral certainty. The doctrine of chances, or, to speak more correctly, disorderly necessity, is not a chimera, but a legitimate branch of science, being under certain rules; and by those rules we can calculate any future contingency, and this enables us to pronounce respecting the origin of contingencies, whose date we have not the means of ascertaining. In fact, chance is not opposed to necessity. Phenomena may be both the necessary result of preceding physical causes, and yet be the result of such unintended causes as to ensure disorder, and such disorder we call chance. Chance or disorderly necessity is opposed to design. Transferring then what has been said respecting the detached letters of the alphabet to the works of nature, we admit that every phenomenon was the result of necessity, that is, the necessary effect of some preceding cause, perhaps physical; and yet we maintain that if those preceding causes were not adjusted by intellect, the effect would have been disorderly and chaotic, just as the letters fall from the box irregularly, because neither in the shape of the letters or the box, nor in the act of casting them out, was there a provision for their regular arrangement when fallen. In asserting this, it is not either granted or denied that there would be any phenomenon at all without mind; but if there were, it is maintained on the preceding premises, that all would be necessary, and yet that there would have been just as much disorder in nature as in the twelve letters tossed on the table. That is, the admitted necessity does not in either case preclude the disorderly effects called chance. We affirm that there is a blind necessity, as well as an intelligent necessity, and that they are respectively distinguished by order and disorder. It may be very naturally said, then, since the order in every part of the universe is so apparent, and the correspondence of all parts in one system; since every organized creature exhibits incalculably more than twenty-four separate parts or functions, corresponding to each other, and placed in a far more artificial position than an alphabetic row:—how is it that the immediate conclusion can be evaded, that an intelligent, not a blind necessity, has been the ultimate cause? If modern atheists do not, like their purblind predecessors in former ages, question the order and correspondence of the members of the several existencies, or of the great whole; if they do not question the exquisite nicety and artificial appearances which the machine exhibits, but, on the contrary, admit its perfection of adaptation:—how do they evade the inference? We reply, that it is this very perfection of fitness that appears to them an indication of some necessity in the order itself. In short, their position is briefly this:—that there is not only a necessity in the existing phenomena, because every effect has had a preceding adequate cause (for we freely admit as much as this ourselves); but they maintain that there was a necessary connection between the respective causes of the various phenomena—which supposition makes it requisite to demonstrate the real independence of the union. They contend that there has been an eternal succession of causes and effects, each preceding series being the entire cause of each succeeding series;—all the preceding phenomena causing the succeeding by an innate eternal necessity. This we deny; affirming that, to produce the present correspondency of parts, the original and preceding physical causes were calculated, weighed, and adjusted to each other, or the present effects would never have corresponded, as do the various and widely different phenomena of nature. They say it was a blind necessity. We say it was a necessity imposed by Intelligence. At this point issue is joined. But the same simple reason which authorized us to say positively that the arranged letters were not the effects of a blind necessity, will not equally suffice to prove that the phenomena of the universe could not have proceeded from a blind necessity, on account of the difference between the known works of art and the unknown physical causes of the present constitution of nature. For instance, we are sure that in the detached letters found in alphabetic order, there could be no associating cause: no letter had a hook or magnet, or an adhesive property to influence the fall of another: their regular position would, therefore, be without a physical cause perceptibly and palpably, and therefore we boldly say, only mind could so connect them as to follow in alphabetic order. But the case is different with respect to the natural phenomena. We see some of them unquestionably allied, as cause and effect, and when not so allied, they are often derived apparently from the one common cause. Thus the five hundred muscles in the body—so admirably constructed and disposed that not one of them could be displaced or reversed without injury to the strength or beauty of the parts to which it belongs,* and which, therefore, as far as aptitude avails, are very striking instances of design—are derived from one law, viz., generation, and from one single germ, by a process apparently as single and simple as crystallization. In these and similar cases there is a real independence, but we cannot so clearly detect it in an individual species as in the occurrence of those muscles in different genera. In the latter instances the independence is nearly as palpable as is the correspondence. Again, the correspondence between things that stand in the relation of cause and effect, constitute a considerable part of the general plan, but that dependence disqualifies these correspondencies as examples of design. Much of the order and relation of the natural phenomena depends on the similarity of offspring to parents, throughout the whole organic departments. There is, in the principle of reproduction, a cause evidently accounting for this whole class of correspondencies; nor does it make the connection less certain, that we do not see the nature of this principle of reproduction, for if we saw any hook or loadstone attaching one detached letter to another, we should not want to know how they came there, to draw the inference that the connection of the letters was not accidental. Again, much of the order and correspondence in nature depends upon the action of one great general law, as gravitation, which enters into and modifies every phenomenon in ponderable matter. It accounts for the regular, though complex motions (some say the construction) of the solar system—for the shape of our globe—for the tides—in short, it enters, in a greater or less degree, into all other correspondencies. These are connecting causes of order, palpable and evident; but no such are discerned in the sequence of the detached letters. The same may be said, in a less degree, of all the general laws of nature, as crystallization, chemical affinity, electricity, &c. &c. They are all, more or less, connecting causes of certain effects, and separately account for very much of the correspondencies in nature. But again, in the natural phenomena there is much mutual influence, where there is not absolute cause and effect, as light on colour, climate on integuments—heat on the atmosphere—moisture on vegetable life. All these general laws or causes contribute to the harmony of the system, and must have ever been essential to it. It is evident, then, that, as far as each of these causes separately extend, they account for the regularity and correspondence of the effects. And even in those cases where we can see no such alliance, there is no self-evident and palpable contradiction to such a connection as cause and effect, at former periods and under other circumstances: or that the *first physical causes* of the present phenomena were not *so connected.* I say that this independence is not evident, *primâ faciè,* like the orderly position of the letters of the alphabet, but requires proof, and it is the purport of these pages to prove the real independence of the parts of this orderly and connected system; and if this be done, it will be admitted by the most sceptical mind, I think, that whenever any number of independent units, exceeding all possible limits of chance, are found in orderly connection, a blind necessity cannot have produced the result—it must have proceeded from a power which could comprehend correspondence and affinity, viz. from intelligence; but it is evident that the independence is at least as essential to the conclusion as the regularity.

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* See Dr. Crombie's Natural Theology, chap. ii. sec. 3.

It is now necessary to define the limits of this independence, as well as to explain against what atheistic theory it is particularly directed.

First: In order to explain more clearly what these independent correspondencies are, I will briefly repeat the more evident dependent correspondencies. I say,

There is some affinity and order in nature, which is palpably cause and effect, and such order as results therefrom cannot of course afford us any such indication that it proceeds from design. Thus the regular phenomena of the tides are the effect of the gravitating power of the sun and moon. The regular return of the seasons is the effect of the position of the earth's axis in respect to the sun—the similarity of offspring to parents is the effect of the principle of reproduction—the regularity of the strata of the earth is the effect of the depositions of water—the exhibition of colour in vegetables is the effect of light—the healthy state of the atmosphere is the effect of the component gases mixing but not combining. I do not mean that these are the ultimate or entire causes of these effects, but the immediate causes, and that we can infer nothing from the regularity or order, as far as they are produced by these things, more than that each effect has such a cause, and that cause is evidently physical and natural. But even in such cases as these, the *principal* causes of the phenomena are not accounted for. The sun and moon did not cause the water, though they greatly affect it. The sun did not incline the earth's axis in an angle to the plane of its orbit. The law of parentage did not cause the first individuals of each species; the water did not make, though it dissolved or deposited the substances it contained; the light does not make the vegetable colours, though it is necessary to draw them forth. Thus even in the most dependent phenomena, there are independent connections. But in the present order of nature, there are multitudes of instances of allied or constituent parts, which cannot be supposed for a moment to have been cause and effect: as, for instance, in the phenomena of *rain*, which will be particularly described hereafter, there is a correspondence between the nature of water, the nature of heat, the nature of the atmosphere, the structure of the earth, and the constitution of vegetable and animal creatures; and, therefore, if these things did not produce, though they now influence each other, and if there could not have been any physical associating cause between them, by which the one set of phenomena have been made to concur with the other to one end,—no connecting physical law by which they were made to correspond and cooperate,—we conclude, of course, that they must be formed and united by some Power who comprehended the order and aptitude that would result from the combination, and who weighed out the physical causes of each (if they were physical causes) with a foresight to the effect of the whole. I trust I have now explained, at the hazard of tedious prolixity, what is meant by independence, as a material clause in the evidence of design. But before we proceed to the argument which is especially built on this principle, we must inquire whether there is any supposition that can be made by the atheist which would nullify this argument *in limine.* Now it can only be evaded by the supposition, that the various correspondencies now exhibited in nature were never united, but co-existed from eternity. I have said in the beginning of this section, that it was certain that the present order of nature on this globe did not exist *ab eternis;* we now proceed to assign the proofs of this assertion. For if this were true—if these parts were never in a state of separation, and therefore never united *ab extra*—we could not, of course, infer the existence of a Designing Mind from the union. But if there were a beginning of the present order of nature, a time when neither the present structure of the earth, nor organic beings of any kind were in existence, then either these things must have been immediately created by the fiat of a Sovereign Power, or sprang from some physical causes; and in the latter case we assert, that those causes, whatever they were, must have been so adjusted by a Sovereign Intelligence, as to produce this correspondence and mutual aptitude in the effect. We do not draw this conclusion merely because we see no connecting physical causes, as we do immediately in the sequence of the alphabet, for that independence is palpable; but because it will be *proved* that there is no mutual connection between one class of natural phenomena and the other, no physical law by which they were made to correspond, in innumerable instances, in one design. It is, therefore, our first point to prove that the present order of nature had a beginning. This is the preliminary point previous to the application of the argument of independent combination; for till this point is proved, the existence of that independence is evidently undeterminable. This being ascertained, we shall next proceed to the question, Whether there either are or have been physical causes that can account for the separate phenomena? and lastly, produce the evidence (with the examples) of the original *independence* of all the departments of nature, and, consequently, of the design which alone could unite them in one system.

CHAPTER II.

SECTION I.—*Physical Proofs of the Beginning of the present Order of Nature on this Planet.*

A DETAILED proof of a beginning of the present course of nature, will, doubtless, appear to a reader imbued with the truths of revelation, and unmindful of the principles of our opponents, to be a very superfluous labour; but we have to reply to those who admit not the evidence of revelation: and when that source of our knowledge is closed by the very nature of the inquiry, it becomes necessary to rest on some other very solid foundation.

The natural proof of a beginning of the present phenomena of matter was, till very lately, extremely unsatisfactory, being chiefly metaphysical: and Paley completely fails, as was observed in the Introduction, in the evidence of this very important point. But the recent discoveries in geology have afforded us physical proofs of a commencement of organic existence, and of the present and past disposition of the crust of the earth: nor am I aware that *this* conclusion of the geologists (according with every explanation of the Mosaic statements) has been lately disputed. Nevertheless, the natural proof must not be omitted.

The value of such evidence (in a natural point of view) is indeed incalculable; for it forms a solid basis for the inferences on which the conclusion is built; and this will appear, if we reflect how difficult would be the proof of the independence of a system, exhibiting evidences of an eternal rotation of the same phenomena.

The following are the physical proofs of a beginning, and of the gradational evolution of the present system.

First: The shape of this globe is just such an oblate spheroid as would be produced by its revolving on its axis at some former period in a fluid or semi-fluid state,—fluid to such a depth, from its surface at least, as would then preclude the existence of any terrestrial creature. Should it be contended, however, that it was always a solid globe, we might rest the argument on the extreme improbability, that out of the vast diversity of figures which could revolve on an axis, as the perfect globe, the oval oblong at the poles, the oval oblong at the equator, the flat circular ring, the flat oval ring, &c. &c. just such a figure should exist *ab eternis*, as a revolving fluid would naturally have assumed. If, then, the earth was ever in a fluid or semi-fluid state, the race of terrestrial animals and vegetables, at least, could not have existed.

Second: The strong evidence scarcely admitting a doubt* of the existence of a small resistance in the medium through which the planets roll, by the retardation of the comet of Encke, proving, if correct, that all the planets in an indefinitely immense number of years will be absorbed into the sun, and therefore equally indicating that their revolutions must have had a beginning, and of course all the substances and inhabitants of these globes.

Third: If the nebular hypothesis of La Place be substantially true (and it has such astronomical evidence that we might almost say its truth is written on the skies), then there is a decisive proof that nature did not exhibit the same order *ab eternis*.

Fourth: We have, lastly, the geological evidences of a beginning of the present course of nature on this planet. The writer is aware of the timid and ill-judged opposition which this species of evidence has encountered; but as the fact he is now proving accords with the literal as well as the more judicious interpretation of Scripture, the conclusion he draws will not, probably, be impugned by any. The firm believer in the literal meaning of Scripture will not find his opinion disputed by the fact itself, and may reject the geological proofs of a truth he does not question. The pantheist will not be disposed to reject any evidence that nature may afford him.

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* *All* the bearings of the phenomena of a resisting medium are not yet fully established.

I shall introduce the geological proofs of a beginning by a quotation from Dr. Buckland's noble Bridgewater Treatise.

" As in the consideration of other strata we find abundant evidence in the *presence* of organic remains in proof of the exercise of creative powers; so from the *absence* of organic remains in the primary strata, we may derive an important argument, shewing that there was a point of time in the history of our planet antecedent to the beginning either of animal or vegetable life. This conclusion is the more important because it has been the refuge of some speculative philosophers to refer the origin of existing organizations, either to an eternal succession of the same species, or to the formation of more recent from more ancient species, by a succession of developements, without the interposition of direct and repeated acts of creation: and thus to deny the existence of any first term in the infinite succession which the hypothesis assumes. Against this theory no decisive evidence has been accessible until the modern discoveries in geology had established two conclusions of the highest value in relation to this long disputed question.

" The first, proving that existing species have had a *beginning;* and this at a period comparatively recent in the physical history of the globe.

"The second, shewing that they (the existing species) were *preceded by several other systems of animal and vegetable life:* Respecting each of which it may be no less proved, that there was a time when their existence had not commenced. And that to these more ancient systems also the doctrine of eternal succession, both retrospective and prospective, is equally inapplicable.

"Having this evidence both of the beginning and end of several systems of organized life; each affording internal proof of the repeated exercise of creative design, and wisdom, and power, we are at length conducted back to a period anterior to the earliest of those systems—a period in which we find a series of primary strata wholly destitute of organic remains. And from circumstances we infer their deposition to have preceded the commencement of organic life. They who contend that life may have existed during the formation of the primary strata, and that the animal remains may have been obliterated by the effects of heat in strata nearest the granite, do but remove to one point further backward, the first term of the finite series of organic beings: and there still remains beyond this point an antecedent period in which a state of total fusion pervaded the entire materials of the fundamental granite, and *one universal mass of incan-*

descent elements, wholly incompatible with any condition of life which can be shewn to have ever existed, formed the entire substance of the globe."—Vol i. chap. 6.

If the facts (not the theory, for no theory is propounded) here stated are unquestionable, the atheistic hypothesis of an eternal succession of organized beings of some kind on this planet is at once confuted. For if there was a time when, from universal heat or universal barrenness, there were no organized creatures on the land or in the water, then the vegetable and animal kingdom must have had a beginning.

I shall now briefly produce some of the geological truths on which the preceding inferences are founded; and I shall take them from the same treatise from which the above passages are quoted. In order to understand this evidence, it will be necessary to premise a few of the leading facts on which all the inferences from geology are built.

First: Many different kinds of substances, some in the form of unstratified or crystallized rocks, some in the form of strata, the deposits of water, envelop this globe or form its crusts, and being inclined in various angles to the horizon, successively appear on the surface of the earth.

Second: In their natural position or order, the unstratified rocks, which will be described more particularly by and by, lie the lowest, or form the internal crusts of the earth. The watery deposits, in their natural order, lie upon the former. And of these strata there are twenty-eight well defined divisions. They are classed in the ascending order, as four series. Those which lie immediately upon the crystalline rocks are called the primary series, the next set the transition, the next the secondary, and the upper the tertiary.

Third: In the unstratified rocks are no organic remains of any description; nor are any found in the primary series or first deposits of water. In the next upper or transition series, we first discern fossils of some of the lower grades of animals only, some peculiar and extinct species of plants and fishes, a few hundred species of shells, with many zoophytes. In the next, or secondary series, other kinds of vegetables and other animals are found: here numerous extinct reptiles also begin to appear; in the middle of this secondary series also begin to appear the most ancient remains of mammalia, viz. two marsupian animals. The tertiary series is divided into four classes or periods, of which the lowest contain only 3½, the next 18, the next 52, and the highest 95 per cent of the existing species; that is, each decisive stratum has some fossils peculiar to itself, and there are none of the existing species of organic creatures in any but the upper or tertiary series.

Fourth: If, as in the pages of a book, these twenty-eight well defined divisions of the deposits of water be numbered in the ascending order, a higher numbered stratum is never found under a low or numbered stratum. This order is *invariable.* Nor are the unstratified or crystalline rocks ever found above these deposits of water, except when certain portions have been infused between them.

The above are not theories, but facts verified by the senses; and if they be incontrovertible facts, it is incredible that all the extinct and living animals and vegetables were created at one period, or that the literal sense of the first chapter of Genesis can be the true interpretation. For if all the organic creatures on this globe, extinct and existing, were created at the same epoch, then, whether the extinct species perished at the deluge, or previous to the deluge, some of their fossil remains must have been mingled with the existing species in every formation, from the lowest transition to the highest tertiary. It is impossible that each of the twenty-eight divisions of these deposits could contain fossils peculiar to itself, and that no existing species should be found in any of the strata except the tertiary series. All extinct and existing species, if created at the same time, must have been mingled indiscriminately in all the fossilliferous strata; not in *lateral* position, because there might be the same difference in respect to the local habitation of particular animals and vegetables that there is now; and this would cause different genera and species to be found in different parts of the same stratum. But there could be no such difference *vertically* between the contents of the upper and lower strata; some of the living species would necessarily have been found along with those that are extinct in the order of superposition instead of each formation, and each decided stratum having its peculiar fossils, with not one of the existing species in any strata below the tertiary series.

The extinct and existing creatures must have been in some degree mingled, even were we to admit that all the extinct species perished previously to the deluge: but it is incredible that they should have become extinct in that interval; for the different strata in which they lie, have become hardened, then broken and inclined, the next strata being deposited on them as the exact filling of the ends clearly shews; the latter being, in their turn, hardened and inclined, and other deposits found on them, each containing their peculiar fossils. Some of these strata, consisting of alternations of marine and fresh water remains; some of them having constituted, for a long period, the surface of the earth, as the roots of large trees embedded in the solid stone unquestionably prove; some of them containing the slow deposits of ages, testified by the integrity of the brittle fossils of which they almost entirely consist, and the enormous thickness of the successive layers. These changes could not have occurred in the crust of the whole globe to an immense depth, while man was quietly living in any part of the earth: nor in so short an interval of time. In fact it is impossible, whatever theory be applied to the literal interpretation of Scripture, that these creatures could all have been created at the same period, and that the different genera and species should have been contemporaneous. I shall revert to this evidence in the next section.

At present, I purpose only to dwell upon one fact, viz. that there was a period on this globe when there was no organic existence. This is the only datum the present argument requires; and, as was before observed, this assertion is not likely to be questioned by any, although it is necessary to state the physical evidence on which it rests.

I have stated that underneath all these fossilliferous strata lie, in their natural order, what are called the primary strata, not having the traces of a single organic being. Now these strata, extending to the depth of many hundred feet, and differing in mineral structure, are also the deposits of water. But if all animals were created when these primary strata were deposited, it is perfectly unaccountable that, extending more or less continuously round the globe, they should not contain a single specimen of organic remains. If no creatures were then in existence, our position is verified. There was a beginning of organic existence.

Will it be said that their fossils were destroyed by the vicinity of the calcined and crystallized rocks? Organic existence could not have begun in such vicinity, for these rocks were not heated after organic life commenced, but before.

We have next to mark the evidence afforded by the unstratified rocks. Beneath all these aqueous formations lie the crystalline rocks, the products of more or less heat, as granite, porphyry, basalt, trap, whinstone, &c. which contain no vestiges of organized creatures. Professor Buckland says, " That the primary unstratified rocks were once in a state of fusion from intense heat, the phenomena which they manifest, the crystallized substances of which they are composed, and the peculiar injections of the very same substances in the form of veins among the strata, and even in the rocks of their own nature, prove beyond a doubt." . . . " The altered and metamorphic appearances of many strata, where they are adjacent to a whinstone vein, as clearly prove the agency of fire as the same appearance of strata next the lava of an extinct volcano."

Again, the Professor says: " The gradations are innumerable which connect the infinite varieties of granite, syenite, greenstone, and basalt, with the trachytic porphyras and lavas that are at this day ejected by volcanos." . . . .

" The experiments of Mr. G. Watt on bodies cooled slowly after fusion; and of Sir James Hall in reproducing artificial rocks from the pounded ingredients of the same rocks highly heated under strong pressure; and the more recent experiments of Professor Mitschetich on the production of artificial crystals by fusion of definite portions of their compound parts, have removed many of the objections which were once urged against the igneous origin of crystalline rocks."

Finally, he says: " Assuming that the whole materials of the globe may have been in a fluid or even nebular state, from the presence of intense heat, the gradual abstraction of such heat would allow the particles of matter to approximate or crystallize, and the result of this crystallization might have been the formation of a shell or crust, composed of oxydated metals or metalloids constituting various rocks of the granite series."

We infer then with certainty, from these facts respecting the primary strata and primitive rocks, that there was a *beginning* of organized creatures on this planet.

SECTION II.—*Inference from the Beginning of the present Order of Nature.*

THERE appears to the writer to be an important inference from a beginning in the order of the matter of this globe, that has not, that he is aware of, been acknowledged, viz. If there have been a beginning of the present state and system of matter, the laws or powers of nature must also have had a beginning; for it is impossible if the same laws and powers which now actuate matter had always existed, that they should not have carried on the same routine, *ab eternis*, as they exhibit now; for matter being by the atheistic hypothesis eternal, and matter and its laws constituting the whole of nature, if the laws or powers of matter had been also eternal, no possible reason can be assigned, either for their former quiescence, or for a different action of those powers at the present period. Being ever the same *(for matter cannot make, annul, or alter its own laws)*, these laws must always have acted in the same manner on the same matter, and produced a uniform rotation of the same phenomena: there could have been no beginning. If they were quiescent, they never could have begun to act of themselves; and ever acting, they must have ever acted according to their nature.

A beginning of the evolutions of nature on the atheistic premises, therefore, involves the beginning of its present laws, as a necessary consequence; and a beginning of the laws or powers themselves involves a supernatural origin of those powers, because nature or matter cannot impart powers to itself.

The usual argument of the atheist respecting the alterations that have occurred in the system of nature, is, that they were produced by circumstances. He does not, of course, plead that the laws or powers themselves are subject to alteration, for this would contradict the axiom, that *matter cannot make, annul, or alter its own laws;* but he contends that the very different circumstances under which those laws acted, so modified their action as to cause them to produce effects very different from what they exhibit, or are able to produce now; and thus he accounts for the various vicissitudes which this globe has undergone. But by his own hypothesis, matter is eternally the same, and the laws, powers, and properties of matter eternally the same; and these, together, constitute all circumstances: the laws of matter could not, therefore, be varied or altered in their operation by the very circumstances which they themselves produced. Difference of circumstance, therefore, cannot justly be alleged, on the atheistic hypothesis, as the cause of the difference in the present and former phenomena. And as it is the nature of every law by which the present phenomena are governed, that it exhibits uniform action under the same circumstances, it is not possible that the matter of the universe, under the same eternal laws and the same circumstances, should have exhibited any variations in its phenomena at different epochs, on atheistic principles: that is, there could be no beginning, no alterations which were not recurrent or periodical, no phenomena differing from those which have been witnessed by man.

I do not mean that nature might not have exhibited infinite variety. For instance: A law may be in abeyance, as is the law of crystallization, which never would act till the substances which it affects acquired a certain degree of solidity, and would invariably act then. The same law also exhibits great variety in its effects, according to the nature of the substances on which it acts; the crystals of one mineral are triangular; of another pentangular; of another hexangular, and so forth; but the law itself is one and the same: therefore there might be infinite variety in all ages, but there could not have been successive phenomena at different epochs, if all the laws of matter were eternal, and eternally the same. There would, of course, have been a variety of phenomena proportionable to the number of powers, or laws, or substances; but matter would have been only found in that variety, and never deviated from it; for no different circumstances would have diverted the uniform course of these same laws. For as we observed before, the supposed different *circumstances* themselves must have been caused by these very laws by which they are said to have been varied, which involves a glaring absurdity. As there could exist on the atheistic hypothesis nothing in nature but eternal matter, actuated by its eternal laws, there could therefore be nothing to constitute difference of circumstances at any time, unless the laws were themselves different, which is contrary to the atheistic principle. The atheistic absurdity lies in maintaining that the same eternal powers could exhibit varied effects at different epochs. On the atheistic premises all the laws make the circumstances, and, therefore, they are not modified by the circumstances. It is not the infinite diversity of the phenomena which militates against the atheistic premises, for, I repeat, the diversities will depend on the number of powers or laws in action; but it is the beginning and variations of those diversities at different epochs. That supposition is *entirely inconsistent with any atheistic hypothesis whatever.* Either of these two facts, therefore, viz. a *beginning* of the present order of nature, or an *alteration* from some former state, is a sufficient proof that the present laws of nature were imparted by a supernatural cause.

Now, these facts, viz. a beginning, and also a variation from the preceding state of nature, whatever it was, accord with the literal interpretation of the first chapter of Genesis. But we have a corroboration and confirmation of this inference in the other geological phenomena, which were briefly described in the preceding section. It is true this additional evidence will not be wanted by the literal interpreter, but it will not be doubted by the pantheist, or atheist, whose opinions we impugn, whatever inference they might deduce from it.

It is evident from the facts stated in the last section, that there has not only been a commencement and essential differences in the phenomena on this globe, but that the differences have been *gradational* or *progressive*, from a state when there were no organized beings, to the present highly organized and orderly system. For a full and clear account of the nature of this progression, I refer the reader to the recent works on geology, and especially Dr. Buckland's Bridgewater Treatise, an extract from which has been quoted, briefly but strikingly describing the great leading alterations of which we have the evidence of our own senses. They are revealed by those incontrovertible indications in the various inclinations of the strata of the earth, raised to the surface by violent disruptions or gradual elevations, and further ascertained by the fossils which are found in them; and it is evident from these indications, that both the earth itself and its organized inhabitants have been brought to the present order through several states, each *more rudimentary* than the succeeding. The climax of this progression is manifested in the present phenomena of nature, and especially in the formation of Man, the most perfect and highest grade of organic creatures. Previous to the present state, during the tertiary period, the earth appears to have abounded with swamps and lakes, and to have been inhabited by many quadrupeds, as perfect in their kind, but of an inferior grade, to the present races. In the next preceding or secondary period, we trace a world abounding with reptiles and vegetables, which indicate a climate of high temperature, and in which only two or three species of land quadrupeds have been yet discovered. Previously to this period were deposited the transition strata, in which we find no animals more perfect than fishes and shellfish; and then we come to the relics of a world without any traces of organic existence. These are partly strata formed by water, constituting the primary slate formations, and partly crystalline rocks of the granitic series, produced during a state in which the now solid substances were in a fused, or at any rate fluid, or semi-fluid state, exactly corresponding with the evidence supplied by the general shape of the globe. And if there be any validity in what is called the nebular hypothesis, then the rudimentary state is traced to a mere collection of gaseous matter. Thus the same facts that prove there was a beginning of organized creatures on this globe, prove also that there was a progressive rudimentary process; that is, we can trace our earth from the present state through four great formations, which formations, it is believed by our first geologists, consist of about twelve successive alterations in the general crust of the globe, each of which states is more rudimentary than the succeeding, till we arrive at the vestigia of an incandescent, or of a molten state of the surface: and all these changes are the stages of a gradational principle. But this gradation itself involves a beginning: for a system of gradation must have had some commencement. And the gradational system of nature, as exhibited on our globe, involves a beginning not only of organization, but of the first and most unorganized state, which we have detected by geological discoveries; otherwise we must suppose that there was an eternal state of chaotic or molten matter in the form of a globe, which at a certain period started off, *suis viribus*, into a progressive system. The thing is physically impossible. If there had been from eternity that uniform rudimentary state, it must ever have remained the same to eternity. Again, the nebular phenomena do certainly appear to explain the primordial state of the matter of this globe, and the whole solar system, and just where the geological evidence leaves it. For as there must have been some beginning, it is extremely probable that there was the same gradation which we can trace in the heavens, from the almost imperceptible whisp of luminous matter without nucleus, through different states of concentration ; till the nuclei being brighter and brighter, and the nebular halo less and less, we arrive at the brilliant sun called a star. But though this is in a great degree probable, yet we do not by any means rest our inference on the truth of this theory, but mention it rather as explanatory of the probable beginning of that progression which is certain. The comparatively simple state in which we first trace organization, till the climax of organic formation, man, and the corresponding progress of the crust of the earth, from a mere confused and molten mass to the present state so highly adapted to organic life; these are alone sufficient proofs of this gradation, and that gradation of a beginning of the present course of nature; and both are proofs of a beginning of nature's laws, and consequently of the existence of a supernatural Power who imparted them.

To this objection to any atheistic hypothesis, it may perhaps be replied,—that nature's powers are of such a constitution as to evolve one state of matter out of another, and that this succession of different causes and effects is as possible as an eternal revolution of the same phenomena. This we deny. There are no natural causes but must spring from matter, and matter's powers or laws; and we know no law or power in matter that has any other action than *one that is uniform under the same circumstances;* and we repeat again, that as there could have been no circumstances but what were constituted by those uniform actions, it is impossible, on atheistic premises, that there could have been any beginning of the present course of nature, or any gradation in the phenomena at different epochs. If indeed we could detect in any law of nature a progressing and not a uniform power, that is, if any known law, acting by itself upon matter, ever exhibited gradation of effect, under *the same circumstances,* instead of uniformity, then there might be some plea to ascribe progressive action to the combination of laws; but we witness nothing but uniformity in all her laws. Gravity always acts at the same rate under the same conditions; crystallization always exhibits the same figures on the same substance; chemical affinity always associates the same substances; parents always produce the same species. None of these laws are subject to alteration, nor could they alter, under any circumstances, that they themselves created;

and it is perfectly unphilosophical to ascribe to the united powers a different species of action from that they manifest singly, and for which there is not a shadow of evidence. The varying inclination of the axis of the earth to the plane of the ecliptic, and the disturbances of the planets by each other's gravity, are rotations, not gradations; each disturbance has its limits; and at the end of a vast period the bodies all return to the relative position which they had formerly maintained. Each portion of this great revolution is certainly gradational, that is, there is an increment or decrement of distances, &c.; but the whole is the reverse of progressive, for it is an eternal repetition of the same variations; whereas the phenomena we have been considering, exhibit a progression without a single evidence of recurrence. In the celestial disturbances, each law continues to act just in the same manner; but, through the relative positions of the bodies, these uniform laws affect each other differently, and produce changes which, so far from exhibiting gradational order (as do those we have been discussing), would end in disorder and destruction, except for the admirable provisions which recall the eccentricities. But in the instances of organic formations, and the inorganic changes, exhibited on our globe, the several steps in the gradation must have been produced by causes entirely different from the astronomical phenomena; that is, by new laws, or laws acting in a new manner on new substances, or under new conditions. The laws or powers which produced the first organic or living being, were entirely different from any powers previously in action, and the effects were as different as the causes. Nor is there any tendency to retrograde in the constitution of these progressing phenomena; it is a progression naturally terminating at its highest grade. But nature, *per se*, cannot act thus. It would not avail the atheist to allege that the nebular theory being verified, there may be countless rotations, even of the solar system itself, from the nebular state to the absorption of the planets into their suns, and that, being absorbed, the suns may fire the congregated mass, and thence the original highly heated atmosphere may again be produced, again to cool into nebular and then planetary systems. Not stopping to point out the inconsistencies in this supposition, as it would involve the past and future existence of the very same creatures that are now alive, and under just the same circumstances: such a rotation, were it possible, would not be a rotation of the phenomena upon the earth, but merely of the globe itself, not of the organic or other systems on its surface. We assert that all the organic, and most of the inorganic system, has exhibited unequivocal gradation. This assertion, therefore, could be disproved only by shewing that the *organic process itself* was a system of rotation;—that the most complicated forms, when the maximum is attained, begin to relapse, and by a natural process retrograde into simple forms again, which is an absurd supposition. As therefore there have been manifestly such gradational changes, it follows, if our premises be just, that the powers of nature were not always the same, and therefore that they are not eternal, but imparted, and, if imparted, there is but one kind of power which can impart laws, viz. a Supernatural Power—an Almighty Intelligence.

If it be asked, by what means these laws exhibit progressively different phenomena now? we reply, that if imparted to matter in a rudimentary, chaotic, or nebular state of any kind, then they require an indefinite time, perhaps countless ages, before they would work themselves into that state which they exhibit now; but being so constituted as to progress, they would naturally attain a climax; but if these laws were eternal, they could not progress to a climax, but would have manifested an eternal circle of the same phenomena.

The above evidence (here only collateral) is of itself a sufficient proof of a Supreme Lawgiver: and such being the weight of the inference derived from gradational formation, it will probably be admitted now, if not before, that the evidence of it has not been unnecessarily introduced, nor the literal interpretation of Scripture unnecessarily impugned. If the proof of this gradation is not only inseparably connected with the natural evidence of a beginning, but if the fact in itself confirms the beginning, and if that gradation forms a collateral proof sufficient of itself to bear the whole weight of our conclusion, it will not probably be deemed irrelevant or superfluous. I shall merely observe, in concluding this section, that this argument, if valid, is a full answer to the supposition that nature, Proteus-like, evolves herself from one age to another in *different* phases, each change being the entire physical cause of the preceding. On atheistic principles the thing is impossible, and in contradiction to the uniform action of all laws that nature possesses now; and if she had ever other powers, they must have been imparted.

We now resume the principal argument in this treatise, viz. the independence of phenomena associated in one design; only inferring from the evidence of the two preceding sections, the absolute certainty that this union had a *beginning*.

CHAPTER III.

SECTION I.—*The Physical Causes now in action, and the Causes supposed to be extinct, both inadequate to account for the co-operation of different Phenomena in one Design.*

WE have seen that the present order of nature had a beginning, and thus obtained a solid foundation for the proof of the independence of her various departments: we shall now produce proofs that this independence is certain. The first point is to endeavour to ascertain what physical causes have contributed to produce the present course of nature. This is the first enquiry which the subject suggests. If we cannot obtain some negative evidence, at least, as to the physical causes of the present system, we have not sufficient data on which to assert positively, that the causes were mutually independent of each other. For it might be said, "If we know nothing respecting the physical causes of the separate phenomena, we cannot ascertain that there was not originally some physical connection." Now this objection, if not obviated, would tend to deprive us of the evidence of independence; therefore it is, that we must weigh every supposed cause of the formation of the different departments so united, which exhibits the least apparent consistency.

As a beginning has been proved, if it were certain that there never had been in nature any operations but those which are now working, or that the present powers had never operated otherwise than they now do, the conclusion would be easily obtained. We could cite all known physical causes, and apply them to the present phenomena, and discern at once, in all cases, whether there was any necessary connection in the things or their causes, to produce the present correspondence in the system of nature. We should soon ascertain, and very decisively, that there are no causes now in existence which could produce multitudes of these correspondencies—no physical causes for the union of different departments, genera, and species in one plan. But our opponents contend that there were previous and unknown physical causes of the present phenomena, which were themselves derived from previous causes *ab eternis*, each succession accounting entirely for the following state of nature, as it was itself entirely produced by that state which preceded it; so that the reader will perceive that we have to extend the argument of independency from the present known phenomena, to *their supposed unknown causes, however* *remote.* In this consists the sole difficulty of this proof of a Sovereign Intelligence: no difficulty if we insist on the conclusion in the preceding section, as that meets the case at once by a denial that such progressive evolutions could be effected by nature herself: but we purpose to rest our principal proof of the independence of these associated phenomena on the physical nature of the things thus united; therefore, an examination of the supposed previous causes of the present phenomena is certainly necessary. It is true we may never be able to ascertain what the real physical causes were, but there are data which partly supply the want of an actual knowledge of the operations of nature at former periods, which data being applicable to any preceding stage of the supposed eternal transformations, will bring us to the same conclusion as we should have drawn from the existing phenomena. These data are derived from the axiom already quoted, that *matter cannot alter its own laws:* certain of its laws might be suspended till circumstances called them into action,* and therefore one law might apparently be evolved from another: but there could not (on the atheistic hypothesis) be any real derivation of one law or power from another. All nature's powers must have been co-eternal and invariable (except by a power *ab extra*); therefore, on the atheistic hypothesis, the properties of matter must have been ever the same. This affords us a broad principle on which to estimate these supposed physical causes; and it effectually prevents any appeal to extinct laws or powers—I mean really extinct, not merely latent—a difference which, we admit, is carefully to be distinguished in this discussion. I say, it is manifest on the atheistic theory, that no powers or properties (called laws) could have existed at any period in matter, which do not exist now, because it is an axiom that *matter cannot impart powers to itself, or annul those it possesses*. The only plea of the atheist must therefore be this: that the same powers which matter possesses now, and which certainly cannot produce the correspondencies above described, were different in their mode of action, under the supposed different circumstances which preceded the present order. That is, that the same laws of matter which we have now, were, under other circumstances, the several causes of a connection in the existing phenomena, although the present action of those laws could not have produced such a correspondence; for anything short of this assertion would not avail him. Now we shall waive, I repeat, the preceding evidence* respecting the necessary uniformity of all *atheistic* phenomena, and prove *by actual facts* that neither existing nor extinct physical *causes* could have concurred to produce the complex unions which nature now exhibits; even if we make the utmost possible allowance for the different effects of the same laws at former epochs, or under other circumstances, that is, even if we granted that this alteration of circumstances could be effected by nature herself. The point which we proceed to prove is this:

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* Although this be admitted as a general truth, no instance of such suspension should be received without distinct physical proof.

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* In the last section.

That there are various phenomena in nature associated in one plan, which, if produced by physical causes, were produced by such causes as must have been completely independent of each other. This is our proposition. And if this can be ascertained clearly, in a sufficient number of cases to place the effect beyond the most remote suspicion of chance, then is the proof equally as conclusive as that which would be derived from causes which are under the cognizance of our senses and experience. We shall first produce a mass of the *negative* evidence of independence, that is, of evidence that no sufficient physical causes have been assigned, by the ingenuity of man, even for the *separate* phenomena for which atheism has undertaken to ascribe a cause: much less then for the *correspondence* of different departments of nature in one plan. And this will be afterwards confirmed by the *positive* evidence afforded by numerous examples of connection and correspondence, for which no physical associating cause can be assigned or conceived.

It would be useless and tedious to dwell upon all the various atheistic hypotheses of physical causes. The most consistent of them may be briefly described, as thus co-operating to form the whole system. It would probably be contended, that gravitation brought a nebular mass into the framework of this solar system. That the atmosphere is a mere emanation from the more solid matters of this globe, as the luminous atmosphere of the sun is of the opaque matter forming that body. It would be further contended, that the mere cooling of this nebular substance would necessarily produce solids—that the various kinds of solids would be formed by kindred particles cohering under the chemical affinities—that these solids would be again decomposed by the air and water, and form the various strata of earths, &c. That crystallization would associate the metallic and mineral particles—that the water and mineral substances would generate earthquakes—that these would raise mountains, and they would cause rivers; and thus, if they could not account for all the phenomena by physical causes, they would defy us to prove that there might not be such causes for the whole inorganic department of nature.

With regard to the organic, it would be further asserted, perhaps, that organized creatures are chemical compounds, and organic life being thus communicated to the most simple animals, they acquired increase of organization by conalus or by other physical causes. Such is a brief description of the supposed connection between these things, in their nature so different.

But granting, for a moment, that each of these great leading phenomena were separately accounted for, entirely by the natural causes to which conjecture has ascribed them—we should still require a common physical cause for the mutual aptitude and correspondence of these different departments to each other; or the chances against the connection would not be simply that of unity to the number of departments: but of unity to all the points in which their countless subdivisions are found to correspond. But in fact, none of these theories will bear investigation, as a complete cause of the effects ascribed to them singly—as we shall now proceed to prove—much less is there a shadow of evidence for any connecting cause common to all.

It is my wish to place, in the strongest point of view, the plea of the atheist respecting self-organizing power of nature's laws, and to produce the reasons which he assigns for ascribing so much as he does to the effects of their agency.

These hypotheses having been the origin of many surmises and confused notions as to the possible extent of nature's own formative powers, it will be well to give them all the force which we are able. Such conjectures are never allayed by concealment. Truth fears no facts, however apparently favourable to atheistic assumptions. If powers, now in action, account for some of her phenomena, yet they leave her most striking *correspondencies* totally unexplained. If these hypotheses could account for all the separate phenomena respectively ascribed to them, which they cannot, we may confidently assert, that the adaptation of the effects to one harmonious plan, is a coincidence which can be ascribed only to intelligence. Of the hypotheses of the separate phenomena, the most consistent is that of La Place, respecting the origin of the solar system. This theory claims our attention first. Our assertion respecting it is this—that, granting it true to a certain extent, it accounts but partially for the phenomena ascribed to it, and it does not, in the least, account for their connection with the other departments of nature.

This theory has been called atheistic, only because it has been cited in favour of an atheistic conclusion. It is not only, in all probability, the true description of the origin of the solar system, but, *as far as it goes*, it is a beautiful and simple hypothesis. The error of La Place was the ascribing, to this cause, many phenomena over which it could have no power.

SECTION II.—*The Theory of La Place.—The Atomic Theory.*

THE nebular theory of La Place is admitted, by a very high authority, to be the probable origin of the framework of the solar system; and where that theory leaves it there are several physical agents that appear, at first view, calculated to complete the system of the inorganic world. Whether this celebrated theory be or be not valid, is another question; it is sufficient that it has obtained such testimonials,[*] that it must not be passed over lightly in an inquiry of this nature. A short description of this hypothesis will be necessary, in order to understand the inferences that have been deduced from it.

This theory of La Place was suggested by the discovery of the various nebulæ by Herschel; respecting which phenomena his son, Sir J.

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[*] Dr. Buckland says, "The nebular hypothesis offers the most simple, and therefore the most probable theory, respecting the first condition of the material elements that compose our solar system."—Bridgewater Treatise, vol. i. p. 40, note.

Herschel, thus writes in the Cyclopedia of Lardner:

"The nebulæ furnish, in every point of view, an inexhaustible field of speculation and conjecture. That by far the largest share of them consists of stars there can be but little doubt; on the other hand, it seems extremely probable that a phosphorescent, or self-luminous matter, does also exist disseminated through the extensive regions of space, in the manner of a cloud or fog: here, assuming capricious shapes like actual clouds drifted by the wind; there, concentrating itself like a cometic atmosphere round particular stars. What we naturally ask is, the nature and destination of the nebulous matter? Is it absorbed by the stars, in whose neighbourhood it is found to furnish, by its condensation, their supply of light and heat: or is it progressively concentrating itself, by the effect of its own gravity, into masses, and so laying the foundation of new siderial systems or of isolated stars?" P. 407.

"La Place (says Mr. Whewell, Bridgewater Treatise, chap. vii.) conceives that, in its primitive state, the sun consisted of a diffuse nebulosity, so as to resemble those nebulæ among the fixed stars, which are seen by the aid of the telescope, and which exhibit a nucleus more or less brilliant, surrounded by a cloudy brightness. That this anterior state was itself preceded by other states, in which the nebulous matter was more and more diffuse, the nucleus being less and less luminous.

"We arrive, says La Place, in this manner at a nebulosity so diffuse, that its existence could scarcely be suspected. Such is, he adds, in fact the first state of the nebulæ which Herschel carefully observed by means of his powerful telescopes. He traced the progress of condensation, not, indeed, in one of these nebulæ, for this progress can only become perceptible in the course of centuries; but in the assemblage of the nebulæ; much in the same manner as in a large forest we may trace the growth of trees among the examples of different ages that grow side by side. Herschel saw, in the first place, the nebulous matter dispersed in patches in different parts of the sky. He says, in some of these patches, the matter is feebly condensed round one or more faint nuclei. In other nebulæ, these nuclei were brighter in proportion to the surrounding nebulosity. When by a further condensation the atmosphere of each nucleus become separated from the others, the result is multiple nucleus stars, formed by brillant nuclei very near each other, and each surrounded by an atmosphere. Sometimes the nebulous matter condensing in a uniform state has produced nebulous systems, which are called planetary. Finally, a still greater condensation forms all these nebulous systems into stars. The nebulæ classed according to this philosophical view, indicate with extreme probability their future transformation into stars."

Now La Place builds upon these phenomena the following hypothesis of the origin of our solar system, thus described by Mr. Whewell:

" He conjectures that the sun thus formed from the concentration of the nebulous matter, revolved upon his axis, surrounded by an atmosphere which, in virtue of an excessive heat, extended far beyond the orbits of all the planets, the planets as yet having no existence. The heat gradually diminished, and the solar atmosphere contracted by cooling; the rapidity of its rotation increased by the laws of rotary motion, and an exterior zone of vapour was detached from the rest, the central attraction being no longer able to overcome the increased centrifugal force. This zone of vapour might in some cases retain the form, as we see it in Saturn's ring; but more usually the ring of vapour would break into several masses, and these would generally coalesce into one mass, which would revolve about the sun. Such portions of the solar atmosphere, abandoned successively at different distances, would form planets in a state of vapour. These planets, it appears, from mechanical considerations, would have each its rotatory motion, and as the cooling of the vapour still went on, each would produce a planet, which might have satellites and rings, formed from the planet in the same manner as the planets were formed from the atmosphere of the sun. It may be easily conceived that all the primary motions of a system so produced would be nearly circular, nearly in the plane of the original equator; and in the direction of the solar rotation. Reasons are offered also to shew that the motions of the satellites thus produced, and the motions of the planets, must be in the same direction. And thus it is held that the hypothesis accounts for the most remarkable circumstances in the structure of the solar system, viz.:

1. The motions of the planets in the same direction,* and almost in the same plane.
2. The motions of the satellites in the same directions as their primaries.
3. The motion of the rotation of these different bodies still in the same direction as the other motions, and in planes not much different.†
4. The small eccentricity of the orbits of the planets, upon which condition (along with some of the preceding ones) the stability of the system depends; and finally,

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* A retrograde motion of the satellites of Uranus is inconsistent with this theory.

† The wild eccentric orbits of the comets, cutting the orbits of the planets at various angles, are also phenomena very hostile to this theory

5. The position of light and heat in the centre of the system.—Whewell, Bridgewater Treatise, chap. vii.

Whatever may be the physical objections to this theory, as a philosophical hypothesis, it has far exceeded in simplicity and consistency, any preceding theory on the subject. The old hypothesis from which were derived arguments for design, in the nice adjustments and collocations of bodies already solid, is comparatively clumsy. Not that this theory accounts for numerous circumstances which must have concurred with gravitation to produce the solar system, but that it certainly explains the direction and velocity, and stability, of the circumvolving globes, much more simply than the old idea, that solid spheres were placed at a particular distance from their primaries, and then hurled with a nicely computed force in a given direction. But however consistent this theory is, as a description of some of the secondary and simple means, by which, under the guidance of Intelligence, great effects have been produced, it is perfectly invalid as an hypothesis which professes to account physically for *all* the phenomena of the solar system, on the same principles.

Mr. Whewell very justly demands an explanation of the following circumstances:—" How came," says he, " the parent vapour to be neither too fluid nor too tenacious,—to contract neither too quickly nor too slowly, for the successive formation of the several planetary bodies?" "Let us suppose," says he, "the nebulosity diffused throughout all space, so that its course of running into patches is not yet begun; how are we to suppose it distributed? Is it equally diffused in every part? Clearly not; for if it were, what should cause it to gather into masses so various in size, form, and arrangement? Why should not the nebulous matter be equally diffused throughout space, and continue for ever in its state of equable diffusion, as it must do from the absence of all cause to determine the time and manner of its separation? Why should this nebulous matter grow cooler? Why should it not retain for ever the same degree of heat, whatever heat be? If heat be a fluid;—if to cool be to part with this fluid, what becomes of the fluid heat of the nebulous matter as the matter cools down? Into what unoccupied regions does it find its way?" To these questions of Mr. Whewell, the advocates of the theory can return no satisfactory answer. These circumstances are totally independent of gravitation. That is, they must have had other co-operating causes to produce such effects besides that of gravitation. And we require an adequate reason for those qualities and quantities, and other concurrences which must precede or accompany the mere action of gravitation, in order to form the respective substances on this globe: for instance, if gravitation could, under certain favourable coincidences, form the framework of the planetary system, it cannot, in the least, account for the different kinds of substances which constitute its respective bodies. The atheist must ascribe many heterogeneous effects to his theory of gravitation, or he leaves them entirely unaccounted for. It affords no reason why our globe was not composed of an homogeneous fluid or solid—why it was not all composed of iron, or zinc, or silver. Had gravitation been the sole principle in collating its particles, the more solid substances would have been constantly and invariably nearer the centre of the globe than the lighter. All would have been invariably deposited in the order of gravity. Not only the relative quality and quantity of the materials of the globe is unaccounted for by this theory, but the collocation of different materials. If their connection be chemical, how came the various particles so placed, so parcelled out in such juxtaposition as to be capable of chemical combination; or why were not all the same substances, on the contrary, each invariably collected in one mass?

Again, if gravity gave us a moon, how came it to be placed at just such a distance as suits the beneficial influence, instead of the overwhelming power, or the faint and useless perception of the tides? Why should not the moon have been so large or near as to cause half the globe to be under water at once, and the other half dry? or why should not the moon have been so small, or so remote, that, being no tides, the ocean would stagnate and putrify? The moon could not have assigned the relative quantities of our land and water. How are they just so poised in quantity, and adjusted in position, that we have that precise benefit from the influence of the moon, that our natural and artificial wants and moral relations require? To produce such relative positions and quantities there must have been many other causes independent of mere gravity. What were those causes, and how did they concur with gravity in the same ends? Again, how came this earth surrounded by an atmosphere? If gravitation alone effected these things, it would have concentrated the matter of the atmosphere on the surface, or made the matter of the surface gradually gaseous till it assimilated with this its envelope? What other physical cause can be assigned for this phenomena? How came two gases, the component parts of the atmosphere, to exist in sufficient quantity to form this meteor by their combination? Why was it high enough for all the uses we find it so admirably serve? It might, if casually or blindly formed by necessity, have been high enough to destroy all the present organized creatures by its weight. But, again, there does not appear to be any assignable cause for the most important phenomenon in the above theory, viz. the solar light.

If the planets were masses of vapour thrown off from the sun, that the largest should be in the centre of them, is very natural by the common laws of gravitation, but no cause is assigned for the luminosity of this central body.

Were all the bodies luminous, then we should only infer that the nebular matter was essentially so, but when it cools we are told it loses its luminosity. But if it be a fact that the centre of the sun is not luminous—that the light is the atmosphere of the sun; how is it that the external surface is more luminous than the mass—that the very nucleus of heat should have become opaque, and that its external coat should be an inexhaustible flood of light? But if heat be not the cause of light, why did not the vapours which formed the planets, retain their nebular light when they lost their heat? If their concentration caused their opacity, why does not the luminous atmosphere of the sun concentrate on its nucleus, and become opaque? or why is not the atmosphere of the planets luminous?

Unless these points are capable of being answered, the nebular theory can only account for a small portion of the effects ascribed to it.

Again, if light be an imponderable substance, how does it proceed from one that is ponderable? If it be a vibration of subtle ether, filling all space, how came that ether to accord with the atmosphere of the sun, and other luminous bodies, so as to produce the joint effect called light?

And with regard to those other phenomena on the surface of the earth,* which the atheist may contend would jointly complete our planetary system, an answer to all atheistic inferences is comprised in the fact, that they all premise different kinds of materials already prepared, and exquisitely adapted in quality and quantity, in order to produce the consequent effects. Mr. Whewell justly observes, the only phenomenon that this globe would present, if formed merely as this theory represents, would be that of a great meteoric stone. Gravity might work upon all matter as it is represented: but to form this earth we must premise the matter to be previously adjusted in quality, quantity, and juxtaposition. And when we speak of the most partial laws, for instance, the chemical and mechanical, their operation premises a vast variety of substances already prepared for their agency. This is peculiarly and strikingly evident in the cases of the chemical affinities. How came the separate associating substances? The law of affinity affords no clue to the existence of the original elements, chemically allied. The same may be said of crystallizing power: it only acts on certain substances already in existence, and only under certain circumstances. Whence those substances? How were they in a state to crystallize? If there were physical causes that could account for these things separately, we should require some common cause, or the co-operation and correspondence of independencies would entirely nullify every atheistic hypothesis. Evidently gravitation is not that common cause. We conclude decisively, then, that these things are independent of gravitation, and cannot be accounted for by the nebular hypothesis; the validity of which we do not dispute, as a theory of limited effects.

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* We are speaking, at present, of unorganized nature only.

We proceed then to examine, if any other theory can account for any portion of the connection and correspondence now exhibited by the inorganic world.

A very consistent and ingenious hypothesis, called the atomic theory, is described in the Bridgewater Treatise of Dr. Prout, to account for the different states of the same substance, the gaseous, the fluid, and the solid. These differences are supposed to be made by the electric and magnetic poles of the axes of ultimate particles of these substances, that is, by the number of ways in which, under the influence of magnetism and electricity, the various axes of ultimate molecules would combine, cohere, or separate from each other. And the same principle, under essential differences of structure in the molecule, would account for the chemical affinities, and even the different elementary substances. As I should be incapable of describing this very comprehensive and beautiful theory, except in the words, and by the diagrams of Dr. Prout, I have, therefore, merely stated this brief outline. Without pretending to judge of the validity of the hypothesis, it is certain that, if true, it would afford an immediate physical cause for many of the phenomena of which we have been requiring a solution ; but then, unfortunately for the atheist, this solution would be more fatal to his theory than the state of things it is supposed to explain. It is true, this theory appears to give a certain degree of solidity and consistency to the wild dreams respecting atoms and molecules that have amused the world in former periods; but it is, like them,* essentially theistic. Should it be pleaded as a first cause, we might justly inquire how there came to be such a vast variety of different molecules as to constitute all the varieties of substances? Who told blind nature that just such molecules would be wanted as would form such peculiar substances, and, *after passing through the several rudimentary states, gaseous, fused, chaotic*, would, at last, form this complex and harmonious world?

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* The most popular of ancient atheistic theories, described so eloquently by Lucretius, bears the most theistic conclusion of all conceivable material hypotheses. The *chance* affinity and concurrence of all the independent atoms composing the physical world, being quite out of the question, their union would require a ruling intelligence, even more than independent elements and laws ; for elements and laws unite multitudes of atoms, and therefore exhibit a less number of independencies. The hypothesis of the Epicureans is, in fact, considering the inference to which it would necessarily lead, the most ultra-theistic hypothesis ever promulgated.

These various differences in the ultimate molecules of matter, cannot be essential properties; for all the essential properties of matter are well defined, as locality, extension, solidity, inertia, mobility, and divisibility. It is incredible then that there should be just so many, and just such independent differences in the ultimate particles of matter, as, without any adjustment or prospective construction, would, after passing through the nebular, fused, or other chaotic states, form the varied harmony of the present system. But granting the validity of this very simple yet comprehensive theory, still it would only account for phenomena purely chemical; and that forms but one division of the physical causes for which we are inquiring. For the respective quantities and qualities of the ultimate substances supposed to be thus chemically formed; for that happy proximity of such of them as have associated chemically in the form of elements, by which alone such unions could have taken place; and for the same association of their compounds in all the varied forms exhibited in the inorganic kingdom, the theory affords no solution whatever.

Finally, if other detached theories could be produced to account for all the separate phenomena in the inorganic department, we should still demand a *common cause* for their correspondence in one orderly and harmonious system.

But if the difficulties of the atheistic hypothesis are insuperable in the inorganic world, they are in the organic department still more insurmountable. For the latter division of nature, two theories profess to offer physical causes,—that of the spontaneous formation of some minor grades of vitality, and that of the increase, in organization, by conatus or appetency, or accidental uterine variety. But these theories will be found not merely like the preceding, inadequate to account for any phenomena beyond their own department of nature, but one of them utterly invalid as a theory; the other, at most, extremely doubtful.

SECTION III.—*Supposed Spontaneous Formations of Organic Creatures.*

WE have seen that organic formations on our globe had a beginning. We have now to inquire whether they could be formed in all cases by mediate or immediate creation only; or whether there are physical laws now existing in nature which could have produced them.

The argument of the atheist is this,—that we are not certain that no instance occurs in nature of the formation of a vegetable or animal by natural causes; on the contrary, that there are some very strong indications of such occurrences in the ordinary course of nature, and that if only one such case be authenticated, it is sufficient to establish the principle of spontaneous formation; a principle so extensive in its inferences (he argues) that it would include the origin of man himself.

Now there are two methods of dealing with such arguments: the one is to deny the facts, the other is to deny the inferences. I shall deny both, for out of the multitude of cases of *apparent* spontaneous generation, it would be difficult to prove the negative assertion in every instance; whereas the confutation of the atheistic *inference* would suffice for all cases. I shall first state the evidence for such formations, not by an atheist, but by a very pious and eminent naturalist, a believer in the hypothesis, but who saw in it no atheistic conclusion. To his statements I shall append the counter facts, concluding with a passage from Dr. Buckland's Bridgewater Treatise, which is as decisive as negative evidence will admit; and lastly, proceed to disprove the atheistic inference from these supposed facts.

Dr. Macculloch, a believer in spontaneous generation, says: "The production of infusoria has ever been one of those difficulties,* as it is amongst the most conspicuous. It is in vain to say that the eggs arrive from the air. No egg produced in water could quit it to be wafted in the atmosphere, and again deposited in water; and though this could be imagined, many of these animals are *viviparous*, under which form the answer is absolute." The reply to this has been, that "Eggs may be drifted with the dust when shallow ponds dry up in summer," and that "these creatures are both viviparous *and oviparous*." Again, Dr. Macculloch continues: "It has been said, as another mode of explanation, that the eggs are existent in the vegetable matters infused. It would be difficult enough to comprehend this for the same reasons, since the egg must equally in this case have quitted the water to seek the vegetable through the air, or else the parent must have laid its eggs when itself is incapable of existing, and never yet did exist, when the instant of drying is not only that of death, but of disorganization." To this it has been replied, that " various infusoria undergo desiccation, and revive in water." Dr. Macculloch continues: " It is a still more insuperable fact, that the vegetable matter capable of producing animals may previously have been exposed to a high heat *sufficient to destroy all life*, or that the liquid may be a new chemical compound, as in the case of vinegar and its vibrios. But the explanation is absolutely insurmountable in the cases of viviparous infusoria; since in no manner could they have continued their races in such circumstances." . . . " It is a case of ' equivocal generation,' if there ever is such a thing, but not in the sense of the atheistical philosophy. There was room and food for more animals; this is the final cause." Again, it is replied to these statements, that " they are both viviparous *and oviparous*, and multiply by division." The Doctor continues: " The animals which inhabit the interior of other animals present the same difficulty under another form; and natural history, ever willing to find the solution, has sought those that belong to open cavities, but if it has found the source of some, there are many more which it never has, and apparently never will. Yet though it has succeeded respecting these, it remains utterly at a loss respecting the hydatids and other animals of inclosed cavities. Hence they have been referred to eggs existing in the circulation: while so unwilling have naturalists been to surrender their hypothesis, that they have never asked of the road such eggs must have taken, nor why they should thus be determined to those specific cavities or places only. Above all, they have never considered how such a theory could possibly apply to hydatids which are viviparous, and in which the progeny also is of considerable dimensions." To this it is replied, in the words of an eminent living naturalist: "Supposing these to be secreted from vascular parts of animal bodies, this is little more than is done in the secretion of the unimpregnated egg in the female ovaries, or of spermatic animalcula in the male. It is organization derived from organization, and is widely different from organization derived from unorganized substances."

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* Difficulties to an opponent of the theory.

"Again," argues Dr. Macculloch, "the mite is produced in cheese, though taken in the curd from immersion in water, where mites never existed, where eggs could not get access if they did, and hermetically enclosed at the very instant of removal." To this it may be replied, that this justly celebrated writer has not attested this result on his own evidence: the fact therefore may be still questioned. Dr. Macculloch continues: "The propagation of the lichens through seeds, has hitherto presented a difficulty little less than that of infusoria. These have been sought by the whole race of botanists, and with no small industry, to no purpose. . . . It is at least singular that they have never been found within any plant of this extensive tribe; nor ever seen in the act of escaping. I admit that if a sphæria is propagated by seeds, so ought a lichen, which is so often analogous; yet how is it that the shield or tubercle of a lichen was never yet seen to open, and that we can watch the same lichens for years, and for ever find them just what we found them at first. And if hundreds of such individuals in many species have not produced seeds, for all those years, whence do the seeds of lichens come to remote stones if they be so propagated? Whence come the seeds of boletus, or whatever else, on the burnt brick and lime of our cellars, under no communication with the external air, *and when there are no similar plants in the neighbourhood?* Whence are the muchors and trechoders on our cheese and paste? whence, above all, the *Redwiedo on new fallen snow?* and whence the fungi of the dryrot appearing, like hydatids in the animal body, not on the outside, but within the organization? Naturalists have answered, that the seeds were circulated and deposited in the vessels of the tree: but they should explain how these gained access to the root, or to any absorbent of a plant. The rust and the smut present the same difficulties, and the question is the same, as it is a question that has not been answered."—Attributes of the Deity, by Dr. Macculloch.

It would be quite impracticable to bring counter evidence to all these supposed cases; but respecting the chief difficulties here alleged Dr. Buckland has the following note in chap. xvii. sec. 2. of his Bridgewater Treatise:

" Ehrenberg has ascertained that the infusoria, which have heretofore been considered as scarcely organized, have an internal structure resembling that of the higher animals. He has discovered in them muscles, intestines, teeth, different kinds of glands, eyes, nerves, and male and female organs of reproduction. He finds that some are born alive, others produced by eggs, and some multiplied by spontaneous divisions of their bodies into two or more distinct animals. Their powers of reproduction are so great, that from one individual (hydatina senta) a million were produced in ten days; on the eleventh day four millions, and on the twelfth sixteen millions." " Ehrenberg has described and figured more than five hundred species of these animalcules; many of them are limited to a certain number of vegetable infusions; a few are found in almost every infusion. Many vegetables produce several species, some of which are propagated more readily than others in each particular infusion. The familiar case of the rapid appearance and propagation of animalcules in pepper-water will suffice to illustrate the rest."

"These most curious descriptions (says Dr. Buckland) throw important light on the obscure and long disputed question of equivocal generation. The well known fact that animalcules of definite characters appear in infusions of vegetable and animal matter, even when prepared with distilled water, receives a probable explanation; and the case of infusoria no longer appears to differ from that of other animals, as to the principle on which their propagation is conducted. The chief peculiarity seems to consist in this—that their increase takes place *both by the oviparous and viviparous* manner of descent from parent animals, and also by division of the bodies of individuals."

"The great difficulty is, to explain the manner in which the eggs or bodies of preceding individuals can find access to each particular infusion. This explanation is facilitated by the analogous cases of various fungi which start into life, without any *apparent* cause, wherever decaying vegetable matter is exposed to certain conditions of temperature and humidity. Fries explains the sudden production of these plants, by supposing the light and almost invisible sporules of preceding plants, of which he has counted above ten millions in a single plant, to be continually floating in the air, and falling everywhere. The greater part of these never germinate, from not falling on a proper matrix; those which find such matrix start rapidly into life, and begin to propagate."

"A similar explanation seems applicable to the case of infusoria; the extreme minuteness* of the eggs and bodies of these animals probably allows them to float in the air, like the invisible sporules of fungi. They may be raised from the surface of fluids by various causes of attraction, perhaps even by evaporation. From every pond or ditch that dries up in summer, these desiccated eggs and bodies may be raised by every

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* "Ehrenberg (says the Professor) has found that the size of the smallest coloured spots on the body of Monas Termo (the diameter of which is only $\frac{1}{2000}$ of a line,[2]) is $\frac{1}{480000}$ of a line; and that the thickness of the skin of the stomach may be calculated at $\frac{1}{480000}$ of a line. This skin must also have vessels of still smaller size, the dimensions of which are too minute to be ascertained."

In the recent notes to a new edition, the Professor quotes another calculation of Ehrenberg respecting the size of the fossil gailonebla destans. "The size of one of these is about $\frac{1}{288}$ of a line, which is about $\frac{1}{8}$ of the thickness of a human hair, and nearly of the size of a globule of human blood. About twenty-three millions of animals are contained in a cubic line of this deposit, and 41,000 millions in a cubic inch. A cubic inch weighs 220 grains. Of the 41,000 millions of animals, 187 millions go to a grain, or the silicious shield of each animalcule weighs the $\frac{1}{187}$ millionth of a grain."—Note to p. 446. chap. xvii. sec. 2. vol. i.

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[2] A line is $\frac{1}{12}$ of an inch.

gust of wind, and dissipated through the atmosphere like smoke, ready to start into life whenever they fall into any medium admitting of their suscitation. *Ehrenberg has found them in fog, in rain, and in snow.*"

"If the great aerial ocean which surrounds the earth be thus charged with the rudiments of life, floating continually amidst *the atoms of dust we see twinkling in a sunbeam*, we have in these conditions of the very air we breathe, a system of provisions for the almost infinite dissemination of life throughout the fluids of the earth."

To such weighty authority against these supposed formations, we may add, that the alleged facts are contrary to all analogy; that they accord not with one other phenomenon; that they contradict all that is known of every principle in nature, chemical, or mechanical, or organic. Such is the balance of facts against this theory; but strongly presumptive as this evidence is against any instance of spontaneous formation, yet it is very desirable to prove that if there should be a discovery of a case of spontaneous formation, it would not affect the proof for an All-Creating Intelligence. And it appears somewhat unaccountable that some of the opponents of this hypothesis, who have stigmatized it as atheistic, have yet been content with opposing to it—not such facts as the preceding—but a few cases as irrelative to the real difficulty as could well be selected. Doubtless, the writers felt a conviction of the great truth that nothing could shake; but it is trifling with the natural evidence to imply that this hypothesis impugns it, and then to produce as counter evidence the information that a seed will germinate after lying for ages in the soil, or some similar discovery.

Now in opposing the inference as well as the facts, we place the natural evidence, I conceive, on a firm basis, not to be shaken by any addition to our knowledge of the operations of nature. We may not be able to bring counter evidence to all the alleged phenomena, but we may divest any such phenomena, should they be verified, of the inference ascribed to them, which is virtually the same. We deny that the existence of spontaneous formation would aid the atheistic hypothesis. First, we will admit, *hypothetically*, that there may be such spontaneous formation in some of the lowest grades of animal life. The atheist would probably argue on that admission, that the organs even in these low grades bear such affinity to the same organs throughout all the animal kingdom, that whatever may be the secondary or physical cause of those functions and members in the lowest grades that possess them, the same must be substantially the causes, however modified or increased, of the same faculties in the highest grades. In short, that if any of these creatures are actually formed, and not merely reproduced by natural, or what we call secondary causes, then the whole animal, and probably the vegetable kingdoms, all that are termed organized creatures, might have been originally so formed, without the interference of a First or Intelligent Cause. Now in reply to these assumed data, we say, if nature has in herself the secondary powers that formed as well as the powers that preserve the system, they would be exerted still *to the same extent* they were at first exerted. The elements of these organic creatures are well known; they are, oxygen, carbon, hydrogen, nitrogen, sulphur, and phosphorus, with a few of the alkaline, earthy, and metallic bases. These are the materials that must have been put together by some means when these creatures were formed. These materials are very plentiful, yet no such formation is witnessed now. How is this? Here are the materials: where are the formative powers? Our opponents would perhaps reply, that nature has now adjusted herself, and that each part has its office, character, and relative position, and that the whole is now so connected that she cannot revert to a previous course of formation; that it therefore would require now, and did require at the periods of formation, peculiar *circumstances* to put those latent powers in activity. The plea appears plausible: but what were those circumstances?* Is there any evidence that any natural organizing causes were in operation at the period when these creatures were formed? Yes, says the theorist, at certain epochs there have been violent and general revolutions on this globe, preceding these formations of organic creatures. These convulsions broke up the whole crust of the earth, and then new combinations of earth and gases and water took place, and when things were thus commingled, these new combinations of substances formed new organized beings. To this we reply: "There is certainly abundant geological evidence that the organic world was formed at successive periods, and it is clearly evident that a formation of many new genera occurred during the epoch between each of those great convulsions of nature; but we ask, how it is possible that such physical causes only as were consequent on such geological phenomena could have formed organic creatures? In the first place we ask, what tendency any peculiar position of the *same materials* now existing can have had to bring into existence what nature cannot now produce from those materials under any circumstances? No other laws have by the atheistic hypothesis ever existed. What made the same laws act differently, or possess more extensive power than they do now over the same materials? What is there in the nature of the former state of the same materials to cause these organizations? What possible connection can there be between certain changes of the earth's surface, and the living creatures of which it contains the remains? The supposition has an inherent absurdity; and the evidence of all facts is against it. There have been in a less degree *all* the alleged causes in operation, without an approach to the supposed effects. Will it be said that these creatures were compounded during great geological and atmospheric convulsions? If such causes have made elephants, horses, and lions, how is it that the most violent disorders in which the very bowels of the earth have been cast upon her surface (as in the earthquake of Calabria, and in the most stupendous volcanic disturbances,) have not organized a single creature. We cannot even say, " Parturiunt montes nascetur ridiculus mus."

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* We again waive the evidence in chap. i. sec. 3.

The vast revolutions of the crust of the earth at certain periods might probably have been natural, because we are not sure that they are not effected by the natural process of the laws of chemistry, &c. Dr. Macculloch says: " It may be admitted, should it be desired, that the several subversions of the earth were the results of pre-established law, appointed originally to act at determined periods, and that an unknown train of causes was originally laid: as in mechanics, we can produce definite effects at distant and appointed times."*—Attributes of the Deity, chap. lvi. And we might admit that existing causes, laws now in action, might account for all the geological phenomena, according to the principles of Dr. Hutton and Mr. Lyall. But unless the laws which produced these changes in the structure of the surface of the earth are the same as those which produced the various grades of organic creatures, the coincidence of new genera with a new surface affords not a shadow of a cause for the coincidence of new animals with a new surface. If it be said, that certain conditions of the earth are favourable to the developement of certain animals, as certain soils and climates are to peculiar vegetables,—this does not in the least account for the germs of those animals, as the soil, in which alone a vegetable germinates, does not in the least account for the seed. The germs could not have existed in a molten state of the earth's surface. The question is, How came the *germs* to be formed? On what conceivable principle is it asserted, that each revolution was necessarily followed by the commencement of different genera of organic creatures by physical causes only? It is evident that no vicissitudes of mere geological phenomena could have any effect in forming these organic existences. The reputed cause and effect have no conceivable connection; for all the geological phenomena which can have been manifested in such revolutions of the crust of the earth, have been exhibited in a limited degree in partial convulsions, without the slightest tendency to organic formation.

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* This natural production of vast changes brought about by a preconcerted train, is admirably illustrated by Mr. Babbage's Calculating Machine. See Ninth Bridgewater Treatise.

It may be said, and very truly, that we do not witness the stupendous operations which were carried on during those great convulsions that preceded new organic formations; and it may be alleged that we cannot deny powers of the effect of which we have no knowledge. But we are quite sure that no different natural *powers* were then in existence: and there is no evidence that any other kind of effects than *now* accompany smaller efforts of the same forces were produced then. We must have the same laws which existed then by the atheistic premises; and we have all the elements of organic existence now. All the substances, then, that constitute organic creatures, and all the laws and powers of nature remain the same; and again I repeat, all the physical phenomena which accompanied those stupendous subversions have often co-existed, without the least approach to such formations. And if matter in none of the states of separation or combination which we have ever witnessed possess such power as to produce even the *rudiments* of organic formations; these are conclusive proofs that in no other case in no particular stage of geological evolution, did the present laws of matter exhibit any such effects; and if this reasoning be valid, what are called extinct *natural* causes are either visionary, or were employed by the Creator, and then annulled; for it is not denied, that other laws of matter might be in operation at those great formative epochs, nor that all organic creatures were perhaps formed by those secondary causes; what we deny is, that they were produced or set in action by nature herself, or recalled by nature herself. Therefore, if certain physical agents operated at those periods only, it is a proof that they were brought into action by the only Power which can ordain and annul the laws of nature.

But it is time, by a still more decisive consideration, to put a close to all such absurd theories of organic existence. The formation of any one animal or vegetable, by any causes purely natural, would require the co-operation of at least *three independent principles.* The existence of the *elementary materials*, the *chemical* powers, and the *mechanical* powers. Grant that an animal structure is in part chemical, it is certainly in part mechanical, as Paley has so admirably explained,* and there is no wider interval in the kingdom of nature, when we except the phenomena of matter and mind, than between the chemical and mechanical departments. It is for the atheist then to explain how his requisite chemical and mechanical powers agreed to co-operate, when they fortunately met the materials, and why they do not continue to co-operate in such formations now. If, therefore, it were clearly ascertained that there were in nature spontaneous formations of some very low grades, of which we deny that there is yet one established instance, we should only infer, that it had pleased the Creator to lay a train whereby certain independent principles are brought together, and made to co-operate in the production of such mechanisms, to a limited extent, and that the secondary causes were then withdrawn.

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* One of his instances is as conclusive as a thousand. The ligature which binds the tendons of the foot at the ankle, and prevents them from springing up, is an example of a structure entirely mechanical.

I believe it is not necessary to bring any further arguments against this theory, but still I will add the following consideration, as it brings us by a very natural transition to the next theory in the order of atheistic causes. Dr. Crombie truly observes: " The instantaneous production of any animal or vegetable, in full strength and vigour, is repugnant to the known agency of nature, admitting nature to possess inherent creative powers. Her generative energies are progressive and slow. This is the universal process of nature, for not a single exception has been or can be produced."

(Nat. Theol. chap. i. sect. 5.) But if it be utterly repugnant to the laws of nature, to suppose the animals were first formed in a mature state by her own powers, they must have been produced in embryo by her own powers—and not only produced, but supported and nourished by especial provisions by her own powers. How then were the carnivorous mammalia, and man, the most helpless of all, cherished in the embryonic state? Were there another set of laws to provide nutrition *only* at those periods? Nature is sometimes represented with an extra number of breasts; perhaps this is symbolical of her kind extra provisions at such times. But as we are quite sure that their supply must have proceeded from some creatures of their own order, we have now only to inquire whether it was possible that the various species of animals were produced and preserved by each other, or whether the cause of the variety was in any other way gradual and successive? for such modes of formation would certainly account for their creation and preservation, otherwise impossible by any natural means.

This brings us to the examination of a theory which offers another solution for both the creation and preservation of these creatures by natural causes; I mean that of Lamark. If there were any the least spontaneous formations, and it could be proved, as this theory attempts to shew, that all species in the organic world sprang first from some such simple spontaneous mounds, and then from each other, then, indeed, we must admit that the origin of the whole organic world might possibly be accounted for, by existing physical laws. If this theory were true, the atheist needs not to have recourse to any formative powers ascribed to the periods of geological revolution, because a *monas termio* might in the course of countless ages evolve into a man. To see the validity of the inference, therefore, we must examine the celebrated theory of Lamark respecting communities of species. His hypothesis, if true, would certainly account physically for the most remarkable detached phenomena in nature. Admitting the first stages of organic existence to be already formed, we should see physical causes for her most wonderful and complex organizations. It is very material, therefore, that this hypothesis be not examined lightly. I shall endeavour to place it in the strongest and most favourable view, as one of the most ingenious attempts to account for the effects by means entirely physical; and I trust that I shall prove that it is a specious fallacy, and quite inadequate to the phenomena ascribed to it, much less to explain in the remotest degree the connection of those phenomena with the inorganic world.

SECTION IV.—*The Theory of Lamark.*

THE hypothesis is briefly this, that all species in the animal kingdom are but the greater or less developement of one type or *eidolon*, which theory (not necessarily atheistic) is made so, by the supposition that each grade of developement is so constituted *solely* by some natural and physical cause.

Let us examine the theory then by its own merits, giving it the full weight of all those apparent indications of identity of plan and adherence to one pattern, on which its advocates formed their superstructure. The facts favourable to the theory are thus clearly described in the rich treatise of Dr. Roget:

Dr. Roget says, in his chapter on unity of design in the creation, p. 626 : " In constructing each of her divisions, nature appears to have kept in view a certain definite type or ideal standard, to which, amidst innumerable modifications, rendered necessary by the varying circumstances and different destinations of each species, she always shews a decided tendency to conform. It would almost seem as if, in laying the formation of each organized fabric, she had commenced by taking an exact copy of this primitive model, and in building the superstructure, had allowed herself to depart from the original plan only for the purpose of accommodation to certain specific and ulterior objects, conformable with the destination of that particular race of created beings. Such indeed is the hypothetical principle which, under the title of unity of composition, has been adopted and zealously preserved in all its consignments by many naturalists of the highest eminence on the continent.

" The *law of gradation*, in conformity to which all the living, together with the extinct races of organic nature, arrange themselves more or less into certain regular series, is one of the consequences which have been deduced from this hypothesis. Every fresh copy taken of the original type is supposed to receive some additional extension of its faculties and endowments, by the graduated developement of elements which existed in a latent form in the primeval germ, and which are enveloped in succession as nature advanced in her course. Thus we find that each new form that arises, in following the ascending scale of creation, retains a strong affinity to that which has preceded it, and also tends to impress its own features on those which immediately succeed; and thus the specific differences result merely from the different extent and direction given to these organic developements; those of inferior races proceeding to a certain point only, and there stopping, while in beings of a higher rank, they advance further, and lead to all the observed diversities of conformation.

"It is remarked, in further corroboration of these views, that animals which occupy the highest stations in each series, possess, at the commencement of their existence, forms exhibiting a marked resemblance to those presented in the permanent condition of the lowest animals in the same series, and that during the progress of their developement they assume, in succession, the characters of each tribe corresponding to their consecutive order in the ascending chain; so that the peculiarities which distinguish the higher animal, on its attaining its ultimate and permanent form, are those which it had received in its last stage of embryonic evolution. Another consequence of this hypothesis is, that we may expect occasionally to meet in inferior animals with rudimental organs, which, from their imperfect developement, may be of little or no use to the individual, but which become available to some superior species in which they are sufficiently perfected.

"The embryo of the crab resembles in appearance the permanent forms of the myriapoda and of the lower animals of its own class, but acquires, in the progress of its growth, new parts; while those already enveloped become more and more concentrated, passing in their progress through all the forms of transition, which characterized the intermediate tribes of crustacea, till the animal attains its last state, and then exhibits the most developed condition of that particular type.*

" However different the conformations of the fish, the reptile, the bird, and the warm-blooded quadruped may be at the period of their maturity, they are scarcely distinguishable from one another in their embryonic state, and their early developement proceeds, for some time, in the same manner. They all possess, at first, the characters of aquatic animals, and the frog even retains this form for a considerable period after it has left the egg. The young tadpole is in truth a fish, whether we regard the form and actions of its instruments of progressive motion, the arrangement of its organs of circulation, and of respiration, or the condition of the central organs of its nervous system. We have seen by what gradual and curious transitions all these aquatic characters are changed for those of a terrestrial quadruped, furnished with limbs for moving on the ground, and with lungs for breathing atmospheric air, and how the plan of circulation is altered from bronchial to pulmonary, in proportion as the gills wither, and the lungs are developed. If while this change is going on, and while both sets of organs are, together, executing the function of acration, all further developements were prevented, we should have an amphibious animal fitted for maintaining life both in air and water. It is curious that this precise condition is the permanent state of the *Siren*, and the profuis animals which this exemplify, one of the former transitions in the metamorphosis of the frog."

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* " This curious analogy is particularly observable in the successive forms assumed by the nervous system, which exhibits a gradual passage from that of the Talitus to its ultimate greatest concentration in the Maia."

Milne Edwards has lately traced a similar progression of developement in the organs of locomotion in the crustacea.

"In the rudimental form of the feet of serpents, which are so imperfectly developed as to be concealed underneath the skin, and to be useless as organs of progressive motion, we have an example of the first stage of that process which, when carried further in the higher animals, gives rise to the limbs of quadrupeds, and which it would almost seem, as if nature instituted with a perspective view to those more improved constructions. Another and still more remarkable instance of the same kind, occurs in the rudimental teeth of the young of the whales, which are concealed in the lower jaw, and which are afterwards removed to give place to the curious filtering apparatus, which occupies the roof of the mouth, and which nature has substituted for that of teeth, as if new objects, superseding those at first pursued, had arisen in the progress of the developement."

"Birds, though destined to a very different sphere of action from either fishes or reptiles, are yet observed to pass in the embryonic stage of their existence through forms of transition which successively resemble these inferior classes. The brain presents, in its earliest formation, a series of tubercles, placed longitudinally like those of fishes, and only assuming its proper character at a later period. The respiratory organs are at first bronchial gills, placed like those of fishes in the neck, where there are also found bronchial apertures similar to those of the lamprey and the shark; and the heart and great vessels are constructed like those of the tadpole, with reference to a bronchial circulation in their conversion to the purposes of aerial respiration; they undergo a series of changes precisely analogous to that of the tadpole."

"Mammalia, during the early periods of their developement, are subjected to all the transformations which have been now described, commencing with an organization corresponding to that of aquatic tribes, exhibiting not only bronchial arches, but also bronchial apertures in the neck, and thence passing quickly to the conditions of structure adapted to a terrestrial existence. The developement of various parts of the system, more especially of the brain, the ear, the mouth, and the extremities, is carried still further than in birds. Nor is the human embryo exempt from the same metamorphosis, possessing branchiæ (gills) and branchial apertures similar to those of the cartilaginous fishes, a heart with a single set of cavities, and a brain consisting of a longitudinal series of tubercles, next losing its branchiæ, and acquiring lungs, while the circulation is yet single, and thus imitating the condition of the reptile; then acquiring a double circulation, but an incomplete diaphragm, like birds; afterwards appearing like a quadruped, with a prolongation of the sacrum, and an intermaxillary bone; and lastly, changing its structure to one adapted to the erect position, accompanied by a great expansion of the cerebral hemisphere, which extends backward so as to completely cover the cerebellum. Thus does the whole fabric arise, by a gradual process of mutation, at an extent of elaboration and refinement unattained by any other race of terrestrial beings, and which has been justly regarded as constituting the climax of organic developement."

"It must, I think, be admitted," says Dr. Roget, "that the analogies on which the hypothesis in question is founded, are numerous and striking; but great care should be taken not to carry it further than the just interpretation of the facts themselves may warrant. It should be borne in mind, that those facts are few compared with the entire history of animal developement, and that the resemblances which have been so ingeniously traced, are partial only, and fall very short of that universality which alone constitutes the solid basis of a strictly philosophical theory. Whatever may be the apparent similarity between one animal and another, during different periods of their respective developements, there still exist specific differences, establishing between them an impassable barrier of separation, and effectually preventing any conversion of one species into another."

" The essential characters of each species, amidst occasional varieties, remain ever constant and immutable: although gradations to a greater or less extent may be traced among the races both of plants and animals, yet in no case is the series strictly continuous; each step, however short, being in reality an abrupt transition from one type of conformation to another. In many instances the interval is considerable; for example, in the passage from the invertebrated to the vertebrated classes, and indeed in every instance where great changes in the nature and arrangement of the functions take place.

" It is in vain to allege that the original continuity of the series is indicated by a few species, presenting, in some respects, intermediate characters, such as the ornithorhynchus, between birds and mammalia, and the cetacea, between fishes and warm-blooded quadrupeds; for these are but detached links of a broken chain, tending indeed to prove the unity of the designs of nature, but shewing also the specific character of each of her creative efforts."

"The pursuit of remote and often fanciful analogies has, by many of the continental physiologists, been carried to an unwarrantable and extravagant length; for the scope which is given to the imagination, in these seductive speculations, by leading us far away from the paths of philosophical induction, tends rather to obstruct than advance the progress of real knowledge. By confining our inquiries to more legitimate objects, we shall avoid the delusion into which one of the disciples of this transcendental school appears to have fallen, when he announces, with exultation, that the simple laws he has discovered have now explained the universe; nor shall we be disposed to lend a patient ear to the more presumptuous reveries of another system-builder, who, by assuming that there exists in organized matter an inherent tendency to perfectibility, fancies that he can supersede the operations of the Divine Agency."

"Allusion is here made to the celebrated theory of Lamark. He conceives that there was originally no distinction of species, but that each race has, in the course of ages, been derived from some other less perfect than itself, by a spontaneous effort at improvement; and he supposes that infusorial animalcules, spontaneously formed out of organic molecules, gave birth, by successive transformations, to all other animals now existing on the globe. He believes that tribes, originally aquatic, acquired by their own efforts, prompted by their desire to walk, both feet and legs fitting them for progression on the ground; and that these members, by the long continued operation of the wish to fly, were transformed into wings adapted to gratify that desire. If this be philosophy, it is such as might have emanated from the college of Laputa."—Roget, Bridgewater Treatise, vol. ii.

After an opinion of such high authority as Dr. Roget's thus strongly expressed, it may seem superfluous to enter into the detail of any facts subversive of this theory; but this hypothesis is still substantially maintained in a periodical publication of very great eminence; and it is intimated that the laborious research of a great continental naturalist will probably produce decisive proofs of its validity. The writer has, therefore, collected from the most familiar and unquestioned facts of geology, some instances which appear totally irreconcilable with the possibility of such a discovery, and also some proofs of its futility, from the nature of the hypothesis itself. But, first, of the preceding singular phenomena, on which the hypothesis appears to be chiefly founded.

The circumstance of founding a theory upon certain facts, not one of which requires such a solution, renders the validity of this hypothesis, *primâ facié*, improbable. In general, where an hypothesis is deduced from certain combined circumstances, one or two of them, at least, require such a solution as that hypothesis supplies. In this case, there are no phenomena but what may be accounted for by the use of general laws. Supposing the present gradation of animals to be formed by some secondary causes, and general laws to be employed by the Creator, then these affinities would naturally occur. The uterine transformations indicate a unity of plan, and the agency of some general laws: they indicate nothing more. They afford no proof that they were the ultimate origin of the similarities between different species. Neither do the redundant parts.

The opposition of general laws produces monsters. When, instead of clashing, one law or process of formation *runs into another*, they would naturally produce such kind of redundant parts; but the limits of this intromission are exceedingly narrow.

The utmost that can be said of this theory is, that such facts as these redundances and uterine transformations are not repugnant, but rather favourable to the supposition built on them; but this is not ground solid enough to pronounce that all the phenomena of gradation are so derived, much less to bring forward the imaginary discovery as a proof that no intelligent cause is required. For such a bold inference, we want one instance, at least, of an affinity between different species which admits of no other solution than that of mutual derivation.

The positive proofs that this hypothesis is invalid, are abundantly satisfactory. It appears essential to this theory, as far as it can be understood, by the necessarily vague descriptions of it which have appeared (for a wild and inconsistent hypothesis can scarcely admit of clear exposition), that there should have been a regular gradation of organized creatures from the lowest to the highest. This gradation appears indispensable to its validity, however the various grades were formed; for on this premised fact the theory is founded. Take away the *gradation*, and it becomes null. But there must be some other condition and similarity in the theory besides gradation, or it would only infer such a connection between different creatures as would necessarily have existed on the theistic hypothesis, and amounts only to this:—that creatures having the same relations to the things around them, are somewhat similarly constructed. The theory also implies that each grade be in some way connected with the preceding and succeeding grades; that there be a chain of derivation, either by a uterine or a post-uterine acquisition of some superior faculty. All we have, therefore, to attend to in estimating the truth of this theory, is to ascertain, first, whether there be a gradation without material chasms; and secondly, whether there was an uninterrupted connection or derivation between the grades. Either of these conditions, the latter especially, being wanted, the hypothesis is null.

First: If this chain of existence, this gradation in organic form, be indispensable to the theory, and no such can be discovered; nay, if it be evident that there ever were considerable chasms and abrupt transitions, not only between species, but genera,—the hypothesis must be visionary. It is certain that the existing species afford not the phenomena of a regular gradation.

We proceed then, in the first place, to examine the contents of those various strata which have been briefly described in chap. ii. sec. 2; that we may ascertain whether, indeed, they contain the extinct links in this supposed chain of animal existences, many intervening species being now evidently wanted; and whether there be any geological evidence that they never were in existence. The advocates of this theory will not question established geological facts. One fact, which is almost self-evident, will guide us in the search, viz.: that the absence of certain fossil remains in strata containing such substances, is a proof that the living creatures never inhabited the place of those deposits, unless the creatures were of a nature less susceptible of fossilization than those that are found there. If then the most fragile and delicate shells have been detected in some of the most solid substances, as marble, and yet many of the supposed intervening species of larger animals and shells are found in no strata in any part of the earth yet examined, it is a strong presumption that there never were such creatures as the theory supposes, and if so, there always were vast chasms in the imaginary chain; and the theory is invalid.

It will avail nothing to say that these lost connections may be found in other strata. All the species of strata are probably known, and though not opened in all places, their characteristic and peculiar fossil remains are ascertained with a degree of probability that leaves a forlorn hope of discovering the multitude of forms which are wanted to connect, in one regular gradation, those that now exist and have formerly existed.

It is certain that the hitherto discovered series of fossil animals* still leave vast intervals in the organic chain, which intervals a law of gradation would have certainly precluded: the only plea, then, of the advocates of this theory is, that the connecting species may possibly be found. But besides the certainty that they never existed in the strata which have been disclosed, we have evidence that renders this plea nugatory, whatever discoveries may be made in future times; for the following geological facts prove that *there has never been a regular gradation of animal forms:*

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* What a chasm in animal and vegetable forms is there between the shells and corals of the earliest transition series, and the land vegetables, luxuriant pines, and perfect fishes of the carboniferous series, and between the fossils of the transition series and those of the secondary series; the latter containing the first specimens of the turtles, the ichthyosauri, plesiosauri, diadelphians, pterodactyli, which complex forms abruptly make their appearance without a

1st: Nature did not begin with the most simple forms.

2dly: In none of the successive changes in organic life, found in the various formations, are there any fossil remains which indicate that rudimentary state, and that progression in organization, which this theory necessarily implies;† and,

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fossil of an intervening or transitionary structure. Again, there is an abrupt hiatus in structure and organization between these of the secondary, and the new forms of the tertiary series.

" It appears (says Dr. Buckland,) that the character of fossil fishes does not change insensibly from one formation to another, nor do the same genera, or even the same families, pervade successive series of great formations; but these changes take place abruptly at certain definite periods, in the succession of the strata, like the sudden changes that occur in fossil mammalia."

† " We find no gradational fossils leading to the first shark, the first palms, the first bird, tortoise, or marsupial, mammal, and many other forms, just as unlike as these are to any thing that preceded them.

" The perfect forms of the most perfect fish commence abruptly. There are no swimming rudimentary lumps, not even the intro-

3dly: Organizations of a higher, precede in order of time those of a lower grade.†

If it be said, in answer to our first fact, that the first simple organic remains were deposited in the primary strata, and destroyed by the heat of the crystallized rocks, when in a state of fusion, then must the animals themselves have been destroyed, for the fused or incandescent state of these rocks must have preceded the deposition of the first strata: they could not have been cold while these creatures were living, and then have charred their remains by acquired heat. But if the first and most simple organic creatures

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ductory form of the eel or siren, but the complete forms of the acanthoicies, the calopteri, and amblipteri: these are amongst the first fossil fishes.

" The first quadrupeds, the marsupians of the secondary series, are nearly as high in the scale of organization as the lion.

. " In the asaphus caudatus of the transition or lowest fossil series, each eye contains nearly 400 spherical lenses, a most complete and perfect optical instrument as any now existing of the same order. Again, in the briarean pentacrinus of the lias formation, there are 150,000 bones, fasciculi, or muscles."—*Buckland.*

† " In the tertiary periods, the carnivorous trachelipods fill the place which, during the secondary periods, had been occupied by a higher order, viz. the carnivorous cephalopods, and afford an example of retrocession which seems fatal to the doctrine of regular progression.

" Again, the sauroids of the greatest magnitude in the carboniferous, or secondary formations, also disappear, and are replaced by less perfect forms in the tertiary strata. In these, as in many other cases, a kind of retrograde developement from complex to simple forms may be said to have taken place."—*Buckland.*

were destroyed, then of course nature, according to this hypothesis, must have begun her organizing process over again, and we should have seen these simple forms in the unscorched strata of the transition series. Again, according to this hypothesis, which involves the increase of limbs and faculties by conatus and other increments, we should certainly detect some rudimentary creatures in these strata.

Secondly: We assert that there could not have been a *mutual connection* in this chain, that is, certain grades being extinct at the great convulsions which have subverted the crust of the earth; the next grades, whatever they were, could not have augmented through them, or have had any physical connection with them: while certain grades never having been extinct, nature evidently did not begin a new course of gradation at any period after the commencement of organic life.

It is an unquestioned fact in geology, that there have been several entire disruptions of the crust of the globe since the epoch of the first organic creatures. It is said that Europe has undergone twelve such changes of its surface; but it is certain that there have been several universal subversions. Now, as at these periods, at least, the whole crust of the globe underwent a change, all terrestrial animals must have been destroyed, and a law of organic gradaproduced from the preceding by some uterine changes, or the differences which distinguish each grade must have occurred in a post-uterine state, and have been acquired instead of derived. I repeat, it is self-evident that the alleged changes must have either taken place in the uterine or post-uterine state, I believe the advocates of the theory generally suppose they occurred after birth, and in order to account for them thus, they are obliged to bring to their aid the wild and absurd theories of conatus, appetences, and such like chimeras, and the imaginary changes produced by climate and food.

There is not one single phenomenon in nature that is favourable to the hypothesis of conatus; while the utmost power of food and climate in producing alterations is well ascertained to extend no further than the integuments, and not to amount to *a single specific difference.* The following objections against these causes, either separately or combined, will probably be deemed conclusive:

1st: The theory supposes there is a *regular gradation* in the whole animal series, an affinity of differences. But it is a gross absurdity to imagine it possible, that any conatus or effects of climate (if such existed) in animal life, should be *proportionably gradational*, that is to say, that the conatus should, in all cases, have progressed to, yet stopped at that point which constitutes a grade or new species, and that the result of such irregular causes, in various different creatures, should at last form the present systematic series of organic existence, much less the supposed perfect gradation of Lamark.

2nd: If a conatus produce an external organ, it must produce also the internal vessels, secretories, emunctories, sinews, &c. that feed or support that organ or limb; but over such internal parts the will has not the least control.

The supposed case of division into sexes by appetency is the bathos of absurdity, for the organic differences must precede the appetency. And as applied to the vegetable system, the term can have no meaning at all.

3rd: The system is chiefly founded on the supposed eternity of the organic world. It is said, "Oh, but think of the time allowed for the most minute changes!" "Think what might be effected by the most imperceptible degrees in eternity!" Now, geology has clearly shewn, that the organic transformations cannot have begun their operations before the transition series; and as no approximation to such changes have occurred in recorded time, (by the most limited computation, six thousand years,) this is a total subversion to the theory as far as it is supported on the ground of the influence of slight causes operating from eternity.

4th: It is evident that if such transformations came by conatuses and appetences, we should discover, either in the fossil remains, or in some living species, a rudimentary organ. I do not mean such as the latent teeth in the whale or parrot, or the feet in serpents, but some external member partly perfected, as the germ of an arm, leg, wing, or fin; and that this would be seen, not as the wing of the penguin, always the same, but in gradation at different epochs. There is no such phenomenon in nature, except in monstrous births and malformations, which are very rarely reproduced, never perpetuated.

5th: How came a male and female, without one exception, in each species, and how were they precisely similar except in sex, if such vague uncertain causes as appetence, climate, &c. constituted difference of species?

If, then, the supposition of such transmutations in a post-uterine state is so untenable, we are obliged to suppose, lastly, that they occurred *in utero.* And it appears to the writer, that a short and simple fact is sufficient for our conclusion on this alternative, viz. that no such uterine transformations occur now. No writer has ever ventured to assert, that there is no distinction of species now. The utmost suppositions of the advocates of Lamark's theory amount to this, that at the period when these creatures were forming, there was no distinct species, and that when discoveries have advanced somewhat further, it is probable that then it will be seen, that there has been no real distinction of species. But a vague conjecture cannot controvert the facts that nearly six thousand years have recorded and confirmed. Whatever be their similarity, no animal ever begins to grow into another *in utero*, nor do different kinds generate together, or if they do accidentally, a creature is produced that has the peculiar mark of no other creature, an incapability of continued reproduction. As long as such facts as these declare that nature has an insuperable bar to community of kind, we may regard with indifference the assertion, that there is no distinction of species. The word species is then used in an arbitrary sense, in a sense which does not bear upon the point in question.

Again, if we suppose difference of species to be acquired in a uterine state, how can we possibly account, on that principle, for the unerring occurrence of a male and female in every instance? It is just as if we should see monstrous births perpetuated by a double sex. But grant a male and female occurred by some means in every instance, how could they all regularly produce permanent increments of organs in their offspring? They do not thus produce now; but if this never occur now, how did it occur in a former epoch? There are just the same causes now in operation that must have existed at the periods assigned to these changes,—the same procreative causes, for the law of generation must have been always the same. All the circumstances necessary to such changes are just the same: why then do not the lower grades breed up to the higher? That the various species do not spring from each other now, is a sufficient proof that they were not so generated at any former epoch, and therefore the theory is visionary. The only plea for an extinct cause of the affinities and connections of organic nature, that has any appearance of consistency, is consequently deceptive. This theory, then, whether advanced to supply the defects of that of spontaneous formation, or to account for its own assumptions only, is entirely void of foundation. Granting that there were power in nature herself to form a simple monad, which we deny, and have given the reasons for denial in the preceding section, it is evident that those simple organisms could not have been increased in structure by any natural means. If, then, there were any spontaneous formations of the lower grades, it would afford no strength to the atheistic hypothesis, for the higher grades must have been formed by other powers in nature than now exist; and the existence and withdrawing of those powers would render it equally certain that there must be a Power superior to nature.—The *negative* evidence is closed.

It is quite clear from the preceding evidence, that the utmost ingenuity of man has not been able to devise any theory of formation which can in the least account for the existing correspondencies even in one department of nature, much less in the whole harmonious system. Could either a common or connecting cause, or a derivation of effects one from another, have been discovered, atheism should then have had a natural and physical reason to assign for these correspondencies, and the argument which we derive from their independence would have fallen to the ground. But the most consistent theories have not even suggested a reason for the correspondencies in a single department. The most simple, the astronomical, has numerous phenomena for which gravitation, the only law that approaches to a common cause, can afford no solution. We may decisively say, that if gravitation cannot be the common cause of the correspondencies in this department, no other power or law in nature can; and without a common or connecting cause, the causes, if physical, must have been of course independent of each other. Again: the atomic theory affords a simple and a comprehensive, and perhaps a true physical cause for many of the existing phenomena in unorganized nature, perhaps for all that is purely chemical. But for the quantity and quality of the original elements, for the juxtaposition of substance, supposed to be allied according to the theory, and for the mechanical and other causes of the phenomena, it affords no solution whatever; and, therefore, is neither a common nor connecting cause of the correspondencies in that department. Again: the theory of spontaneous formation, although destitute of a single decisive proof, might possibly be found true to the very limited extent which is suspected; but this would afford no solution for the existence of a single grade of organic existence beyond that extent; nor can the wild theory of Lamark supply the defect of a common cause, or a mutual derivation. And if this be true with respect to the separate departments, how absurd is the supposition of a common cause or a mutual derivation for all the departments of nature;—the widely separated kingdoms of the organic and inorganic, the ponderable and imponderable substances!

Our evidence hitherto has been only negative. It has been shewn that the utmost ingenuity of man, in assigning physical causes for the structure of the material world, on atheistic principles, has not been able to explain, much less to prove how the phenomena in one single department correspond with each other, either through a common or connecting cause, or by a mutual derivation, which are the only physical means of correspondence.

It is true, this evidence is only negative; but when the theory of our opponents, the theory that would preclude an Intelligent First Cause, rests entirely upon conjectures, and opposes the simple principle of experience, that every house has an intelligent cause; the absence or the overthrow of such conjectures is in that case the precise evidence that meets the objection. The argument of atheism is a conjecture, or supposition, that physical causes might possibly account for the phenomena; and when conjecture is silent, or suppositions proved to be absurd, the atheistic theory is opposed on legitimate principles.

But we are not limited to negative evidence. The examination of the facts, the exhibition of the heterogeneous nature of the phenomena, which have such close and minute correspondencies, will demonstrate the absurdity of supposing there is any physical connection in their ultimate causes. But the principle of argument will be just the same. It will be shewn that there can be no common nor connecting cause, nor mutual derivation between the phenomena; not, as in the preceding evidence, by the want of such causes of correspondence in the supposition of atheism, but from a detailed examination of the actual alliances in nature between phenomena, for which not only the utmost stretch of imagination can find no common cause or mutual derivation (for our imagination is not even in this case the test of truth,) but for which correspondence there could not possibly be a physical cause, the laws and powers of nature being ever the same. Had these correspondencies always existed, we could not draw this inference; but as we are sure many of these phenomena had a *beginning*, if there was no such combining physical cause a certain number of its parts must have been originally *independent* of each other: whence the similarity, the aptitude, the correspondence throughout one vast complex harmonious system? If the atheist says, "We do not contend for one uniting cause; we hold, that there were many distinct causes, all physical:" we ask, How came those distinct and independent parts of nature to correspond? For as many of the corresponding phenomena as he admits to be independent, we require a cause of correspondence. If he admit, for instance, that the sonorous property in solid bodies, and the atmosphere, and the animal ear, had each a distinct and independent physical origin,—and the natures are so remote, that he will admit independence here, if anywhere,—then he fully acknowledges all the independence for which we contend. The correspondence between our own senses and external nature would alone supply us with examples of the connection of independent things, abundantly more numerous than we require. So palpably and essentially different are the laws that govern the distinct departments of the organic and inorganic world, the ponderable or imponderable substances, that it is a mere mockery of words to assert that even between any two of these departments there is an original or necessary connection, any connecting law, or adaptation but what is arbitrary. It only remains to produce the *positive* proofs of this independence, proofs so evident that the mere examples carry with them their own conviction.

CHAPTER IV.

SECTION I.—*The Argument of Independence proved by Examples.*

WE proceed to shew, by various examples, the essential difference in many phenomena joined together in one plan, and to confirm the assertion that even if they had respectively their physical causes, those causes must have been independent of each other; nay, in many cases, where the department in nature is the same, we shall see ample reason for full confidence in this conclusion.

Previously to the production of these examples of things, independent yet corresponding, it is right to obviate one objection that may occur to the mind of the reader. If, it may be said, nature has the power to form one of the corresponding parts or units, there appears to be no reason why she may not have the power to construct another; and if so, the inference derived from the combination seems to be invalidated. The reply to this objection is obvious. We do not admit that nature has the power to construct anything. We deny that she could form one of the corresponding phenomena, but we prove her total incapability to create them, not by any single object, but by the *correspondence* of different objects, because the proof is more easy and clear when it is derived from the correspondence of parts manifestly independent. In many single objects, as an animal or a flower, there are doubtless many independent concurrences, but not so obvious as the independent origin of the animal and its vegetable food, and the atmosphere that supplies that food with rain. That is, we deny nature can form the individuals, but prove it by such correspondencies to be utterly impossible.

It will, probably, be admitted, that these examples cannot be too simple, clear, and even familiar. In drawing the inference of design from the correspondence of detached parts, the more intricate and unexpected the instances, provided the correspondence is clearly made out, the more satisfactory is the conclusion. But it is evident that the original *independence* of the associated parts is a more latent point, forasmuch as it is apparently contradicted by the existing union; therefore, it is especially desirable, in this case, to select only such examples as leave the mind in no doubt as to the result.

Countless other examples might have been produced: in fact, almost all the instances which have been taken as parts of the several unions described, do themselves consist of complex subparts exceedingly diverse; but, as was observed, the more distinct and heterogeneous, the more separate by locality or nature the units of our combination, the more palpable is the independence, and the more evident the design that produced the association.

I have only to remind the reader, that this is professedly an outline only, and that subjects of great scope will, therefore, only be briefly and cursorily treated.

The Cosmical or Astronomical Relations between Organized and Unorganized Nature.

It will, doubtless, be admitted, that there is no original inherent necessary existence in organized creatures, much less any necessity that they should exist under the most salutary circumstances. I mean, of course, no necessity prior to any physical secondary causes which may have produced them, for only time and space have a necessary existence. There is no necessity that a globe, revolving round another globe, should have any organic creatures on its surface, for we detect a time when there were none on our globe. I will quote Mr. Whewell's admirable observation again: "Neither the condition of the earth as a planet, nor the physical cause assigned by atheism for its existence, would involve any other consequence than that it should exhibit the appearance of a great meteoric stone."

If, then, there are certain astronomical conditions, independent of each other, which jointly contribute to the continuance and the perfection of organized creatures on this globe, and yet did not cause their existence, there is an independent relation in every instance in which this connection is demonstrable; the whole making a complexity of coincidences. Now there are four instances in which the astronomical or cosmical condition of the earth is essential to the continuation of the organized creatures it sustains, and yet could not have caused their existence.

First: That the central body should be the source of light and heat. The independence of this circumstance on its position in the centre is evident. It was necessary that the largest body should be central, but not that it should be the source of light; for some of the planets are central bodies, having their satellites, and yet only one body is luminous. One or more of the planets might have been luminous, and the sun opaque, or all of them uninhabitable globes of fire, or all of them bodies without any light or heat. We can assign no physical cause whatever for the existence of a luminous sun. That some kind of organized creatures might have existed, under other circumstances, is no counter argument. Here are beings that could not long exist, much less flourish without this heat and light: this heat and light are supplied in the most beneficial manner. Now, unless this heat and light *caused* these existences, this is a perfectly independent correspondence. That some heat contributed or was necessary to the first production of organic creatures, may be admitted, for it is only saying that animals, constructed to live by means of heat, could not live without it; or that animals with lungs cannot exist without air: but the air did not make the lungs, nor did heat cause, though it was of course accessary to organization. We do not deny that some unknown physical agencies might have been the secondary cause of organized creatures; but we confidently say, it was not the heat and light of the sun. If heat was more than a passive agent in the first production of organic creatures, it is much the most probable conjecture that it was electrical heat, or the heat in the earth itself. Light could have had no agency in the secondary causes. Mr. Crosse's experiments, however interpreted, evince that light is unfavourable to the developement of the rudiments of organization; yet the sun's light is necessary to the continuance of all organized creatures, because their vegetable pabulum could not exist without it, and the sun's heat is indispensable to all organic existence. Here, then, is our first correspondence of independencies.

Secondly: That our earth has an atmosphere. I adduce this most complex phenomenon, at present merely as the means of breathing.* This is a very similar correspondence to the last. The atmosphere is necessary to the existence of all organic life; indeed, we cannot conceive that such animals as inhabit this globe could have existed a moment without an atmosphere, or, if they had any physical causes, that those causes could have acted without such a medium; but this is a very different thing from ascribing to the atmosphere the origin of that existence. That a certain agent is necessary to our existence, is a different position from the assertion, that it is the cause of existence. The very point in which the correspondence between the atmosphere and organic life is principally seen, contains, in itself, a proof that the former did not cause, or make the latter; for the lungs are a machine which not only resists, but decomposes the air; and it is utterly inconceivable that the air should cause an organization constructed on a principle of resistance and decomposition of itself. Yet is this atmosphere entirely necessary to organic existence.

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* We shall include, under subsequent instances of independence, the various properties of the atmosphere, which render it not only necessary to our existence, but admirably adapted to our nature, as its transparency (gases are not necessarily transparent), the singular union of its component parts without chemical combination by which it continues pure—the absence of colour—its wonderful adaptation to the following forces and emanations, which cross it in all directions without confusion, rain, wind, smoke, various gases, light, odours, sounds, motes and invisible substances. It is also a striking addition to these coincidences, that its two component parts are separately poisonous.

Thirdly: The existence of water, and its fluidity.

Unless it can be shewn that water has a necessary connection with a planetary state, its existence is entirely independent of any known cause. And although necessary to, and forming a compound part of organic life, it was never suspected of causing the structure of a lion or an elephant; but every organized creature would perish without it. The independence is too palpable to require any comment. But this substance would not preserve these creatures, were it not in a fluid state. This is also another cosmical independence, for this arises from the peculiar distance of the earth from the sun.

" Water (as Dr. Prout observes) within very narrow limits of temperature is a solid, or a liquid, or a gas; yet these very narrow limits of temperature, neither more nor less, are precisely those which exist upon the surface of our globe," except near the poles, which are uninhabited. Now the position of the earth, a little nearer or more remote from the sun, or an atmosphere very much lighter, would have effectually precluded the fluid state of water; and if the orbit of our planet had been a long ellipse, to which figure it was equally liable by astronomical principles, the alternate gaseous and solid condition of water would have equally destroyed all organic creatures. Now that there were physical causes for this peculiar position of the earth, and the shape of its orbit, as well as for the peculiar nature of water, we do not deny; but this we assert, that there could be no possible connection of origin between the causes of our peculiar planetary position and the causes of water, so as to make the precise distance of the earth the cause of the existence of water, or the cause of the natural limits of the fluidity of water; nor could the two conditions have had any common physical cause. But the fluidity of water is indispensable to organic creatures. If this be not a concurrence of circumstances entirely independent, what is independence?

Fourthly: The inclination of the axis of the earth to its orbit, and its parallelism to itself.

There is no physical cause to which these two phenomena can be ascribed. There is no assignable reason why the earth might not have swung round the central body in the position of a ball retained by a string, and, in that case, always have presented the same half to the sun as the moon does to us; or why the axis was not perpendicular to, or on the same plane as the orbit. Had either of these circumstances occurred, we do not question but that certain organic creatures might have been adapted to the difference; but it would manifestly not have been adapted to the existing race of organic beings, most of which, if produced, must soon have perished; and those that could exist, would not have experienced the most beautiful and salutary vicissitude of the seasons. But unless the peculiar position of the earth's axis caused or modified such creatures as are continued and benefited thereby, this is another legitimate instance of independent coincidence; but if we denied, on just ground, that the light and heat of the sun were the cause of organic creatures, it cannot, for a moment, be supposed that the vicissitude of seasons, and the variety of climate, can cause these peculiarities of structure in organized creaures, which make them susceptible of these advantages. Nor could they have even modified them. The utmost powers of climate, and heat, and cold, over the constitution of the animal frame, are clearly ascertained: they cannot, in the least, alter one specific difference; they can darken the complexion, alter the integuments, but not modify a single internal portion of an animal structure.

Here then are two nice adjustments in the position of the axis of this planet,—the angle it makes with its orbit, and its constant parallelism; neither of which can be ascribed to any physical cause, both which are essential to the existence of most, and essential to the comfort of all its organic creatures, and yet not the cause of their existence, or of the peculiar structure by which they enjoy these advantages—this is a third independent coincidence.

The adaptation of the cycle of the year to the successive production of fruits and flowers, in one climate, and of different fruits and flowers in other climates, are some of the most salutary consequences of these cosmical provisions.*

Fourthly: The connection of the moon with our planet.

The benefit this satellite confers on us is threefold. It gives light; and it preserves the ocean from putrefaction, by the tempered tides, which are also essential to navigation. The existence of a moon to our earth, according to the system of La Place, would be a necessary consequence of physical causes; but the following nice coincidences could not have had any physical cause: That moons are chiefly attached to planets which want most light: that the distance of the moon, or its peculiar bulk, is just such as the eye requires for tempered sleepy light, sufficient for the time of general repose: and that its distance and peculiar size is just such as raises our quantum of ocean to the height navigation requires. It might have flooded a whole hemisphere at every tide, or not have raised the waters an inch, glared over half the sky with superfluous light, or twinkled as a third-rate star. Granting, then, there were physical causes for the existence, and just the present distance and size of the moon, those causes were perfectly independent of the existence of man, of his use of the tides; of our necessity for sleep, and our convenience in a nocturnal lamp. The nice adaptation of these independent and heterogeneous classes of physical causes to one end, the convenience of man, could have occurred only from design.

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* There are other concurrent causes, both of the difference in climate, and the steady average of temperature in any one climate, such as the nice conditions of the laws of heat in respect to earth and water, and the atmosphere, which would form very complex subdivisions of this independency.—See Mr. Whewell's Bridgewater Treatise, chap. viii. and ix.

Fifthly: The adaptation, the changes of organic creatures to the annual and diurnal revolution of the earth.

We do not question but that organic creatures, requiring periodic rest, and having periodic times of fruitfulness and decay, would in a great measure conform to the times and seasons which the changes of our planet produces; that is, vegetables, constructed as those which inhabit this globe, would have a greater tendency to produce flowers and fruits in summer than winter; and such animals would generally be most redundant in every physical faculty, and would get the habit of sleeping in the night rather than the day; and yet to shew that there is no *necessary* connection in these things, many flowers blow in early spring, and some in winter, in the midst of frost and snow; many vegetables are in full vigour in the winter, and lose their leaves in summer; many animals sleep in the day, and some through half a year; and man sleeps every twenty-four hours in the glare of the polar sun; but even granting the ultimate revolutions of the globe to be the general cause of the periods of the organic changes, we ask how came these organized creatures to have this *power of periodicity* in that *measure* which coincides with the planetary revolutions? An evergreen has scarcely any, and a dormouse one of a very irregular kind; but these very exceptions, which shew us that these vicissitudes do not arise from any law necessary to organization, shew us also the exceeding beauty and benefit of the general law. Granting rest necessary to an animal frame, how admirable is the adaptation of the period generally required to the revolution of the earth on its axis, instead of a half-yearly repose. How beneficial that most vegetables produce their fruit and renovate their leaves once in the twelve months, instead of requiring, like the fig, two years to mature the fruit, or four, or fourteen. The need of alternate rest and activity in the organic world, and alternate light and darkness of about the same duration in the inorganic, are independent coincidences.

The reader will observe that four out of five of the above astronomical conditions are quite independent of each other. This which has been just described is, it may be said, a necessary consequence of our planetary state, and it may be admitted, although we know of no necessity for a planet to revolve on its own axis. Let the four independent conditions, then, be considered in connection with the organic correspondencies in each case, and the result is a combination of *independent* circumstances, all concurring to the same end, viz. the existence and benefit of vegetable and animal life. Nothing but design could have produced so many concurrent independencies. In these examples I have not thought it necessary to confute the supposition of a common physical cause, neither shall I in those which follow. The idea is palpably absurd.

There are other instances in which the conditions of what may be termed elementary or unorganized nature, are essential to the continuance and perfection of inorganic existence, and yet they neither produced organic creatures, nor each other, nor could have sprung from a common cause.

First: The existence of heat or caloric.

Heat is one of the imponderable substances, and is independent of light. I would include, under this head, all the heat, both latent and active, which does not proceed from the sun. Now, this imponderable substance, or virtue, is as essential to the continuance of organic life as is the heat of the sun itself, as we should soon find were it withdrawn. In truth, it so enters into the composition of almost all substances, and has such perceptible active influence over many, that the whole structure of nature would be essentially altered without it. We freely admit also that it was necessary to the formation, as it is to the preservation of all organic creatures; but it is scarcely necessary to observe, that a homogeneous imponderable substance, which influences all substances according to the nature of the substance, can in no sense be called the constructing cause of a variety of ponderable mechanisms, much less did they produce heat. Here then is an independent and most important concurrence to one end of things, in their nature essentially different. Heat works with organizing causes, but could never organize.

Secondly: The relative quantity and disposition of the land and the ocean.

No ultimate physical cause can be assigned for this proportion. Why was not the globe covered with water permanently? It has been so occasionally. There is water enough for the permanent submersion of the land. Or, on the other hand, why was not the globe a mass of earth only, or scoriæ, as is apparently the moon? We know no ultimate necessity for any such existence as water, or even any fluid. But in either of these cases no terrestrial animals could have existed; in the first place, for want of room, in the second, for want of the pabulum of organic life—water. But, again: we know no ultimate physical cause why both earth and water existing, the relative proportions might not have been exceedingly different from what they are now; but if the water had greatly prevailed, there would have been a vast portion of the globe, at least, useless, and multitudes of genera and species, as well as individuals in organic existence, would never had a being. On the other hand, had the land prevailed inordinately, the ocean would not have supplied water enough to feed the springs and rivers,* and organic life would have failed from that cause: the effects of which state of things are partially seen in the deserts of Africa, as if to shew us what might have been the state of all lands. If the water had been a little less in quantity, all rivers would have fallen in cascades into the sea.

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* Dr. Prout says on this subject, "As the origin of the superfluent water, which flows from rivers to the ocean, is thus unquestionably derived from the vapour condensed in the interior of the countries where the rivers originate, it follows, that in every country where there are rivers, condensation must surpass evaporation. That is to say, a large proportion of water condensed on the land must have been evaporated, not from the land, but from the neighbouring ocean."—Bridgewater Treatise, p. 136.

Again : the peculiar *disposition* of land and water, supposing the relative quantities the same, is another independent and very important concurrence. That there have been *proximate physical* causes for such a disposition, is not denied. These were the violences that the crust of the earth has undergone through the united agency of air, heat, and water. But can it be supposed for a moment, that twelve† violent subversions of this crust, through the action of such wild powers, could have each contributed, in a progressive ratio, to bring the earth into the present state, without design? The physical causes, of course, necessarily produced these effects; but how came those causes so apportioned that the effects are so entirely suitable to organic creatures? We can conceive no *ultimate physical* cause for this arrangement. But if these violent causes had not been under direction, water and land might have existed together over the whole globe, in the form of an uninhabitable swamp, or marsh, or of a vast continent spotted with millions of lakes. But of what incalculable advantage is every item in the present disposition to man! The benefits, physical and moral, can scarcely be computed.

To allege that there were physical causes both for the geological phenomena, and the nature of organic creatures, is nothing to the purpose, if the two sets of causes were palpably independent of each other. Now it cannot be supposed for a moment, that it was *this proportion or disposition* of land and water that caused or modified terrestrial vegetables and animals; yet is this *proportion* essential to their continued existence, and the *disposition* the most beneficial that could be imagined.

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† It is supposed by our first geologists, that there have been at least twelve violent subversions of the soil of Europe.

Thirdly: The phenomenon of rain, not only fluid water, but water in the form of rain, is another indispensable necessary to all terrestrial organic existence. Without rain almost all vegetables would perish, and almost all races of terrestrial animals would soon become extinct; yet it is presumed that, however water might enter into the physical causes of organic existence, as indeed water forms a component part of all known substances, that this ingredient was not necessarily water which had been in the form of rain. But if water, in the form of rain, is absolutely necessary to all terrestrial organic existence, and yet did not cause those existences, directly or indirectly, here is another independent relation. This, however, is a very inadequate description of the case under consideration. If there be certain other independent concurrences, all necessary to produce rain, then the relation of rain to organic creatures is not one simple relation, but involves as many independencies as there are distinct causes, without which there would not be a shower; as,

1st: The property of water to evaporate in a state of purity (slightly at all times), in mists or vapour, and in sufficient quantity to form the clouds at the usual temperature of the atmosphere.* We need not say, the evaporation of water from water cannot be the cause of organic existence.

2nd: The peculiar nature of the atmosphere to suspend, or the nature of this mist to be suspended (for it is immaterial to the inference to which we ascribe the effect), at a proper distance from the earth, neither flying off as a gas, nor returning immediately to the water from whence it arose. This depends on a very nice adjustment of causes,† but not any which can have a power to form an organized being.

Also: The mysterious but necessary agency of electricity, an *imponderable* substance, or the vibration of a subtle ether, in producing rain, clearly ascertained to exist, but not yet sufficiently known to admit of explanation.

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* There are several subdivisions of this condition, in which are involved some nice calculations, totally distinct from the actual cause of organic formation, though of course influencing all substances, as the properties of heat, its latency, radiation, &c. This suspended vapour itself is very beneficial to vegetable life.

† Another subdivision of this independence is derived from the nice adjustment of the laws of heat, water, air, on which these results depend. Mr. Whewell says: "Why should such laws of heat and elastic fluids so obtain and be so combined? Is it not in order that they may be fit for such offices? There is here an arrangement which no chance (or blind necessity) could have produced."—Bridgewater Treatise, chap. x. p. 101.

3rd: The tendency of this fine vapour not merely to condense, for that may be an indispensable concomitant of the tendency to evaporate; but, first, to condense in the peculiar substance and forms of clouds, by which it is capable of being carried to the places where it is wanted; and, secondly, to condense again in the peculiar form of drops, the admirable, the indispensable benefit of both which *modes* of condensation is palpable. "Of the two great causes of evaporation and condensation, it may be further remarked (says Dr. Prout), that by a beautiful provision they have a constant tendency to limit each other's operations; evaporation is increased by heat, and produces cold: condensation is produced by cold, and liberates heat. Moreover, in virtue of another wonderful arrangement, by evaporation water is separated entirely from all foreign bodies, and is thus condensed in a state of absolute purity." (Bridgewater Treatise, p. 288.) Yet, though thus beautifully adapted to our wants, the formation of a cloud, or a drop of rain, can have no other relation to the formation of an organic being, than that common influence which all heat and moisture necessarily have on all substances.

4th: The phenomenon of wind, by which

the vapour is carried from the ocean, or other spots whence it is chiefly raised, and where it would be useless, to all the regions where it is wanted.* It will not probably be suspected that the wind has any concurrence in organic formation, though in Thessaly it is said to have had a very leading influence in reproduction.

5th: The existence of mountains, by which the clouds are attracted, and to the want of which the deserts of Arabia have been attributed.† But the volcanic agency which raised those mountains‡ can have no organizing power; it is sometimes peculiarly active in disorganizing.

6th: The internal structure of the crust of the earth, by which the rain, when fallen, is absorbed, and then collected in springs,|| so as to form the heads of rivers, and so returns to the sea.

7th: The furrowing of the surface of the earth,

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* A subdivision belongs to this independence, involving nice proportions of action, or quantity of the component parts of the atmosphere, and not merely consequent upon the preceding properties of air, but others that have not been described. See Mr. Whewell's Bridgewater Treatise, chap. x. art. 2.

† See Dr. Macculloch's Attributes of the Deity, vol. i. chap. vi.

‡ The same volcanic agency was at the same time breaking up the various useful strata by which they are accessible to mankind; a doubly useful process and a twofold independence, for both ends were accomplished by the same violence.

|| How many concurrent circumstances does this provision involve; as the existence of the more porous earths, the existence of clay, and the general prevalence of these substances.

by the agency of violent waters,* into mil of channels, for the reconveyance of this into the ocean, fertilizing every region thr which they run. The partial connection of provision with the preceding, viz. the volc raising of mountains, does not affect its to an absolute independence, when we cons that these deluges are not the necessary sequences of the violent force which uphe the mountains; we often witness the volc agency most powerfully exerted without any dency to inundation. It is quite superfluou add, that between inundation and retreat water, on the one hand, and organic formatio terrestrial creatures, on the other, there can be possible connecting cause.

The seven foregoing essential conditions in t phenomena of rain,† are independent of ea other, and as organic formation is independent them all, we have a complexity of independen concurrences (not to mention the subdivisions alluded to in the notes) all contributing to the continuance and welfare of organic existence. Combine with these adaptations the preceding, viz. the existence and nature of caloric, and of the relative quantity and disposition of land and water; and add to these the former astronomical relations, viz. the existence of light and heat in the central body; an atmosphere surrounding our planet; the peculiar position of the earth's axis; connection with the moon; the adaptation of ganic vicissitudes to the planetary changes; and en let the whole be considered not separately, t as a combination of independent concurrences one end, the welfare of organic creatures,—the ference will be inevitable, that there must have n an Intellectual Cause for the co-operation such entire and complex independencies.

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* This beneficial, nay necessary, provision for organic nance, is the more remarkable instance of independent rence, as (like the uplifting of the mountains) they are th of successive irregular violences: thus the causes of these changes form many subdivisions, all necessary to this end in many instances (as at Clifton) the solid rock has been to enable a river to preserve its course to the sea. Here mu been a co-operation of forces of a different nature effecti same end, though perhaps at different periods, a volcanic diluvial force.

† This circulation of water has been justly compared to culation of blood in the animal body.

Having in the above attempted the general tline of a few of the most prominent indepencies in the system of nature, I would now deavour to enter into more minute details. e subject is the independent connections of ganic and inorganic things; and a few of the ding heads of this correspondence have been efly enumerated, sufficient indeed to preclude y rational interpretation of the great system, ept that of a design; but this truth will necessarily be more clear by considering some instances in which these two departments are united in one specific combination.

Ex. 1st.—The Independent Concurrence of Light, the Atmosphere, and the Eye to one end, viz. the Sense of Sight.

(First:) Light.

Light, though generally associated with heat, is distinct and frequently separated from it; nor is it a degree of heat. The hammer-heated iron has no light; the cold glow-worm fills with its rays a large circumference: if heat then were a cause, instead of a necessary nidus of organic formation, it would not follow that light was, *therefore*, accessary to it. It has been observed that it appears hostile to organic developement. All the first processes of organization with which we are acquainted occur in darkness. It does not appear that light is necessary even to the continuance of animals, except as it is essential to vegetable existence. It has no agency in organic formation. Yet is light entirely adapted to the use of the animal world. And as light could not have produced the animal structure, so neither could these heterogeneous existences possibly have sprung from the same physical cause: the one is a ponderable complex machine, the other an imponderable simple substance, or peculiar action of such a substance. But if the one thing did not make the other, and if they could not have sprung from the same physical cause, then is there a perfect independence of origin between the substance light, and the animal frame. Yet is there the most intimate connection between the properties of light, and the animal structure. Being essential to vegetable existence, it is necessary as well as heat to the continuation of all animal life; but it is more especially connected with it as the principal agent in the sense of sight. Now, whichever theory of light be adopted, it equally consists of most wonderful and complex phenomena. Whether vision or sight be produced by different rays, or different vibrations, the admirable and subtile structure of this system is equally evident. This chief agent, in the joint effect of which we are speaking, is most beneficially modified by the peculiar tendency of its rays to be reflected and refracted, and by the peculiar nature of the medium through which it passes. As the capability of being reflected and refracted, has an especial relation to the eye, this property will be noticed under that head; but we may here observe, that by its capability of reflection, we enjoy the general diffusion of light, and by its capability of refraction, we enjoy all the uses and beauties of colours with their almost infinite shades. Now these effects are produced on us, not directly, but through a cooperating medium called,

(Secondly:) The Atmosphere.

We have considered the atmosphere as a medium of vitality, but not of vision. In the latter capacity it is a very important agent. As the sun is the principal source of light, so the atmosphere is the cause of that beautiful modification of the sun's light, called daylight and twilight; for without this medium we should only see by the direct rays proceeding from a luminous object. The rest of nature would be in darkness. The instant the sun sunk beneath our horizon, the blackness of midnight would ensue. The atmosphere, by its power of reflecting and refracting the sun's rays, multiplies and prolongs them. "Were it not (says Sir J. Herschel) for the reflecting and scattering power of the atmosphere, no objects would be visible to us out of direct sunshine; every shadow of a passing cloud would be pitchy darkness; the stars would be visible all day, and every apartment into which the sun had not direct admission, would be involved in nocturnal obscurity." — Treatise on Astronomy, p. 33. Now, to produce this effect, there must be, as has been observed, a reflecting and refracting capability in the rays of light, and a corresponding power in the atmosphere. But with what exquisite nicety must this fluid be adjusted! Transparent to admit the rays of light, and yet opaque enough to reflect and refract them. As Dr. Macculloch observes,[*] these seem irreconcilable qualities and actions. Yet, thus exquisitely adapted, the atmosphere could not have been caused by light, or the moon would not be without this appendage, nor could they have had a common physical cause; for the one is an imponderable substance or action of such a substance; the other is composed of two ponderable gases in a peculiar proportion, which light, so far from combining, tends to decompose. Thus there is a complete independence of origin between these two phenomena, thus admirably cooperating to one end, the sense of sight.[†] But by far the most remarkable of these combined independencies remains to be mentioned, viz.

(Thirdly:) The Eye.

This is the most remarkable part of the association, not because it is in itself a more artificial and wonderful phenomenon than the light it receives, or the atmosphere through which it is modified; for nothing can exceed the machinery of light, be it of what nature it may, or the varied powers of the two simple gases which constitute the atmosphere; but because the *sole* use of this instrument is evidently for the conveyance of sight to the brain; whereas light has probably some other uses than those which respect organic beings, and the atmosphere many uses besides the conveyance of light.

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[*] Attributes of the Deity, chap. xxxiii.

[†] The very complex laws of the polarization of light may form a subdivision of its simple properties; and a component part of the united independencies. The more complex the nature of a corresponding system, the more extraordinary is the correspondence.

To attempt to describe the complex structure of the eye would be superfluous, after the full and most interesting details of this now well known organ in the Bridgewater Treatise of Dr. Roget, and other recent works on the same subject. No one can be now ignorant of the leading provisions of the eye, by which it is an instrument of sight. Its admirable position in the frame, for which no physical cause can be assigned; the different substances, with different powers of refraction, through which the rays pass, in order to fall in such a manner on the *retina* (or canvass) as to present a perfect picture *in minimis* of external objects, perhaps extending forty miles; or the contracting and dilating muscles of the pupil,* (or opening) in order to admit a less or a greater quantity of light; or what is called the achromatic power of this instrument, thus constructed, depending upon the variety and nature of the substances through which the rays pass; or the admirable provision of muscles to increase or decrease the convexity of the globe, according to the distance of the object we wish to survey; and the double holes in the spheroid bone through which the nerves of the retina reach the brain. I attempt not a general, much less a complete description of this exquisite organ (for there are many other adaptations connected with it), but only of its intimate, yet independent connection with light and the atmosphere. Now, it is evident that were not light of such a nature as to be susceptible of refraction and reflection, by the simple provision of a bent ray—(and who would have supposed, *a priori*, that a bent medium could multiply light and cause all colour ?)—were not the atmosphere at once perfectly pellucid and invisible, and yet, strange to say, capable of reflecting and refracting those rays;—and, lastly, were not the eye composed of several substances transparent, and, at the same time, achromatically refractive, and of an opaque substance, to receive and arrest those rays; a nerve to convey the impression to the brain, and a power in the mind to rectify the picture necessarily reversed on the retina, not to mention the other adjuncts in this most artificial mechanism: we could not possess the sense of sight as we now enjoy it. Yet no extravagance of scepticism can reach the conjecture, that the physical causes of the capability of refraction or reflection in the rays of light, were the causes also of the nature of the several lenses in the eye, and of the composition of the atmosphere; and yet if this was not the case, what but design could have adapted the solid machine to the capabilities of an imponderable substance, and of a mixture of gases? Will it be imagined that this peculiarity in light, and in the atmosphere, is not in the substances themselves, but only in the eye itself? This is palpably disproved by the deflection of the rays in every pool of water. Is the whole effect of these substances virtually contained in the eye? How then does light act mechanically upon vegetation? There is no possible evasion of the conclusion, that the things are perfectly independent, yet have a complicated adaptation. Again: another very striking correspondence between light and the eye, I shall take the liberty to add in the words of Mr. Whewell. Supposing light to consist of the vibrations of a subtile ether, he says: "The whole scale of colour from violet to crimson lies between vibrations which are 458 million millions, and 727 million millions in a second. Why should such vibrations produce perception (of light and colour) in the eye, and no others? There must be here some peculiar adaptation of the sensitive powers to these wonderfully minute and condensed mechanical motions." (Bridgewater Treatise, chap. xvi.) The wildest scepticism cannot, surely, fancy a common physical cause for this rate of motion in the particles or the vibrations of light,* and the capacity of a solid compound and complex instrument to convey just the proportion of motion to the brain.

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* As a subdivision to these independencies, is the admirable construction of the muscles, by which the pupil is thus varied in size, but not in shape.

But to add, if possible, to the wonderful adaptation of these independencies, we find the eye varied in its construction, and adjusted to the habits, wants, and habitations of different animals. Did the light produce a nictitating membrane, to exclude itself when not wanted, and admit it when necessary, over the eyes of birds which have to seek their prey at night, and, therefore, have a capacity for light that dazzles in the day? Did the water cause the eye of the fish to make the conveyance of the rays of light precisely accord with the difference of refraction between air and water? Animals, again, which seek their food in the dark, have the posterior part of the choroid coat of a white colour. Animals whose eyes are fixed and capable of only one direction, have a greater number of eyes.† Now all these varieties have an adjustment not only to light, and the atmosphere in which they move, but the very food they pursue; and yet it is just as impossible that light should be the cause of the human eye, as that the circumstances which make these differences advantageous, should have in the least contributed to those differences. Did water make the lens of a fish round, while ours are planoconvex? Did the darkness make the owl's choroid coat white? Did the need of more extensive vision multiply the eyes of the dragon fly? A Sovereign Intellect stands clearly revealed in these otherwise impossible concurrences. I professed to offer but a mere outline of these correspondencies, and hasten to the instances of another sense.

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* It is perfectly immaterial to the conclusion, whether the theory of a vibratory ether be adopted or not. In the one case, the above is the rate of vibrations; in the other, of the motion of the rays of an imponderable substance.

† Dr. Crombie's Natural Theology, chap. ii. sect. 4.

Ex. 2nd.—The Independent Correspondence of the Sonorous Body, the Atmosphere, and the Ear, in the Sense of Hearing.

First: The Sonorous Bodies.

The capacity of receiving the vibrations which constitute sound, lies in the ear, but the cause of them in the sonorous body—the conveyance of them in the atmosphere. How the percussion of a solid body makes its particles produce the motions of the air which convey its peculiar sound, is, and probably ever will be, a mystery: it is evident, however, from the great difference of sound in different bodies, that it depends on some peculiarity in the sonorous body.

Secondly: The Atmosphere.

There is no question but that the capability of conveying the vibrations of sonorous bodies depends on the peculiar properties of the atmosphere, and that just such gases, so uniting, would in their very nature be subject to these undulations; but how is it that just such was the composition of the atmosphere? Sounds would be very differently and imperfectly conveyed by other gases; for instance, by hydrogen, and not at all *in vacuo.* Why was not the space above our globe full of hydrogen gas, or in countless ways otherwise compounded; or why was there not an absence of all gaseous substance? But, granting some physical causes for the existing atmosphere, and that it was the necessary result of those causes, the question is, how those causes were so adjusted as to produce just such undulations from such bodies as convey the various sounds to the animal ear? No common physical cause between these different natures can be assigned, or conceived, by the most excursive fancy. As Dr. Macculloch observes, it is an extraordinary circumstance that the air or atmosphere should have the power of conducting sound in such a manner, that the great movements and transference to which it is itself subject by what we call wind, should interfere little or nothing with the most delicate of its vibrations causing sound. Their velocity is not retarded, nor their subtile distinctions altered: and that crossing sounds, that is, crossing vibrations or undulations of this atmosphere, do not destroy each other. As he observes, the atmosphere does certainly move when it produces sound, for it shakes solid bodies; yet are all the nice distinctions of *timbre*, and all the modulations of music preserved: even through a war of the elements, and amidst a thousand different sounds in a tumultuous assembly, in a fair or a battle, all that is heard at all is heard distinctly. This is, as the Doctor observes, a singular constitution of things, and we ought to deem it a great effort of contriving power; for we find it impossible to explain, or even conceive, by what exquisite subtilty it is effected.

Thirdly: The Ear.

This property in the sonorous bodies, this adaptation in the atmosphere to convey it, would be entirely useless, but for the animal organ that completes the combination which constitutes sound. This is more than we could say, even in the instance of light itself, which has considerable chemical effect independent of the use of vision. That these vibrations in the solid substance, and correspondent undulations in the air, were either jointly or separately the cause of a complex machine in the head of an animal, or could have proceeded from any common cause with that organ, it is not necessary gravely to contend. I premise the general anatomy of the ear to be now known to all readers: its cartilaginous substance; its tortuous concavity, so necessary to collect sound that, when wanting, it has to be supplied artificially; the drum stretched across the passage of sound on the ridge of a bone; and the watery fluid in the labyrinth behind the drum, so well calculated to communicate the pulsations to the auditory nerve. The ear resists the undulations, opposes them, and in so doing discriminates. Here is a correspondence with those undulations founded upon the principle of opposition instead of concurrence; nor can we suppose that when the eye or ear were first formed (let that formation be interpreted by our adversaries how they will), the organs were in a state to be susceptible of, and therefore influenced by, the impressions with which they were to correspond; for then they must have possessed that solidity upon which no undulation of light or sound could make the least alteration; nor is it possible, if it were so, that circular vibrations of air should mould a complex cartilaginous sinuous organ, or stretch a drum across a hollow bone, or make an auditory nerve.

But this correspondence is, as in the case of light, an exquisite adjustment of complicated circumstances. It is not all vibrations of the air which produce sound. Those below 30 in a minute, and above 1000, do not answer that purpose.* How came the instrument to be pitched to the interval between these numbers? We can conceive no physical cause why its susceptibility reached 30, or did not commence after 1000 vibrations, in which cases the effect would not have been produced. The cause could not be connected with the nature of the sonorous body or the conveying atmosphere. But the powers of uttering, conveying, and receiving articulate sounds, is the most inconceivable part of this united system. As Dr. Macculloch observes, it is, as it were, the faculty of making our ideas solid; and the exquisite nicety of accord that it requires in the human voice, the atmosphere, and the ear, is, perhaps, more wonderful than any provision in the sense of sight, or any other phenomenon in nature; that is, the several instruments appear less adequate to the effect produced.

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* See Mr. Whewell's Bridgewater Treatise.

I shall conclude this example in the words of Mr. Whewell, who, in the following passage in his Bridgewater Treatise, and several other places, has fully recognized the importance of that principle of independence to which this view of theistic evidence is principally confined:

"The properties of sound which have been mentioned, differences of loudness, of pitch, of quality, and articulation, appear to be all requisite in order that sound shall answer its purpose in the economy of animal and human life. And how was the air made capable of conveying these four differences at the same time that the organs were made capable of producing and perceiving them? Is it by chance that the air and the ear exist together? Did the air produce the organization of the ear? Or the ear, independently organized, anticipate the constitution of the atmosphere? Or is it not the only intelligible account of the matter, that the one was made for the other?"

I do not add the senses of *smell* and *taste* to these instances of organic and inorganic correspondencies, merely because they act more directly upon the organs without any known correspondence with the atmosphere, except as a simple conveyance of the odorous particles, and therefore do not afford a third class of correspondencies. But as regards the cooperation of the saped and odorous bodies and the respective organs of sense (as Dr. Prout justly observes), the effect is even more wonderful, because it is far more unaccountable than in the senses of hearing and sight. In those cases there is a mechanical instrument, viz.: the ear and the eye, admirably adjusted to what may be called mechanical actions of the cause and the medium; but how the odorous substances excite the sense of smell and taste is entirely a mystery. We are certain, however, that the organs were not made by the cause that excites them. These correspondencies, then, though not threefold, are each perfectly valid, as instances of single correspondence of the most wonderful and inexplicable nature.

Ex. 3rd.—The Relation of Animal Forms to the Element in which they live.

Why has a man arms, and a fish fins, and a bird wings? Because the whole internal structure of those respective animals was adapted to such appendages as each possesses, and would be quite inconsistent with the nutriment of the limb which distinguishes another kind. This is unquestionably a right answer, but it only leads to another: How came the internal structures thus consistent? Is there a certain repugnance in nature to inconsistencies? Of course there is, in the same sense that a machine of human art will not work, unless it consists of parts mechanically adapted to each other. But this does not in the least account for the machine, or for a construction of a consistent creature having wings to people the air. It was not necessary that the air should have such inhabitants, unless it could be shewn that the air contributed to make such a structure as belongs to the wing rather than arm. But, unfortunately for that theory, the arm and the wings are both born and bred in the same atmosphere.

Again: It is true that a fish with a wing or arm would be an inconsistent structure, nor, perhaps, could it have been a permanent race: but it was not necessary that there should be a consistent animal fitting the waters, unless the water itself caused the peculiar structure of which a fin is a consistent part; and if so, why is not every inhabitant of the water furnished with fins? Why are crabs, lobsters, eels, without fins? Why have not the infusoria all fins? As arms and wings are both produced in one element, so in water are found a vast variety of shapes and figures, just as independent of the medium in which they live.

Again: The air, the lungs, and gills, is a very similar case. Whatever physical agents were in cooperation when the lungs were first formed, the air was doubtless necessary to the formation of this machine in all its varieties. But it is impossible that the air, an homogeneous fluid, should have been, directly or indirectly, the *cause* of their wonderful adaptation to itself: so far from this, as has been observed, the whole apparatus is a mechanical resistance to its perforation, and a chemical opponent or disorganizing power to itself. The supposition is entirely absurd. And the same argument applies to water and the various gills of fishes, and with this additional objection to the wild conjecture, viz.: that in these cases the water, not the air, must have constructed the machine. For what? For the service of the fish administered by the air: a bright example of disinterestedness certainly, if it were so. In the air bladder of fishes is found a similar conformity of independent things. On the important use of this appendage it would be idle to dwell. Paley says of this adaptation (which, be it remembered, is of no use to the general economy of the fish): "It would be worthy of inquiry, if it were possible to discover by what method an animal which lives constantly in water, is able to supply a repository of air. The expedient, whatever it be, forms part, and perhaps the most curious part of the provision." . . . "Nothing similar to the air-bladder is found in land animals; and *a life in the water has no natural tendency to produce a bag of air*. Nothing can be further from an acquired organization than this." (Nat. Theol. ch. xiii.)

There is this additional proof of independence on the water in this supernumerary organ, that the air is with great physical difficulty, and only by art, and this mysterious process of nature, extracted from water; but it is received at once at every inspiration from the atmosphere, and yet there is no such receptacle for it as an air bladder in those animals which live in the air. Is there any reason to be assigned why blind matter, or nature, should provide for the difficult process, and neglect that which would have been simple and easy? There is, on the contrary, a very natural explanation of the case, viz.: that where the process was difficult, the effect was wanted; where it was easy it was not wanted: but such an interpretation, of course, involves design. If it be said, few fishes could exist without the aid of a bladder of air to raise them to the surface, in order to inspire through the gills; the necessity of a complex structure to an animal's preservation does not account for its construction. If that construction cannot be traced to their peculiar connection with water, it is truly an adaptation of independent things one to another, and one which, considering its general prevalence, would alone evince intelligence.

Again: The correspondence between the *Camel* and its abode is another instance of organic and inorganic adaptations. It will be admitted, that the conformation of this animal is as useful to mankind as to itself, and thus there is a threefold correspondence. It is thus useful to man, and also accommodated to its habitation by two remarkable peculiarities, both *sui generis:* the broad-cushioned foot, which prevents its sinking into the sand; and the little cells in the stomach, which retain, instead of absorbing, the water it has drank, and yield it successively as its thirst requires. Did such an animal seek the desert, as its most convenient abode? If it is found in no places where a desert is not accessible, on no mountains, in no island, in no other water-locked region, we cannot attribute its connection with the desert to accidental collocation; but if we could, it would only prove the force of instinct, not account for the correspondence. Did the vast draughts of water cause the peculiarity in the stomach? *How?* Did the sand cause the foot to be soft and broad? *How?* If these two coincidences of conformation were not necessary nor accidental, they were designed: they can have neither an assignable nor a conceivable cause in the circumstances with which they so correspond. Each peculiarity might have had some separate existing physical causes. There might have been secondary causes of the desert—the hoof—the stomach—but it is impossible to conceive any associating cause but design. The notion of a common cause is too absurd for confutation.

Hitherto, the examples have been chiefly taken from things in different departments of nature, associated in one system; but if it has been proved that there is a perfect independence between genera and species in the same department, the instances of this latter kind are, in fact, just as valid as those of the former. Examples of this kind are necessarily less striking than those which have preceded them; but in all arguments, variety of illustration is desirable. We shall conclude with instances, if possible, more indicative of design than those with which we began.

Ex. 4th.—Independent Correspondencies in the Organic World, or the Chain of Alliances between different Genera.

The first instance I shall cite is the independence of the various genera on each other throughout the whole of the vegetable and animal kingdoms. Their correspondence in the general system of nature, and the identity of plan on which they are constructed, will not be questioned for a moment: if then they neither produced each other, nor were formed by a common physical cause, their independence is as certain; and no one can doubt but that if both the independence and the correspondence between these genera are clearly ascertained, that the multiplex correspondence could proceed from Intellect only. I have already mentioned an objection to which these more similar independencies are especially liable: that if nature could make one of these corresponding organisms, she might construct all. Now we deny that she could *(propriis viribus)* create a *monas termio;* but we prove it not by the several independent correspondencies even in that creature, as figure, motion, vitality, nerve, muscle, stomach, &c., but by the much easier proof of the independence between the *monas termio* and other genera of animals.

Did the various animals produce each other? We have seen, in the examination of Lamark's Theory, that their correspondence could not have proceeded from any such physical cause, and the reasons were briefly these:—that in the animal kingdom, such a mutual correspondence must have occurred either in a uterine or a post-uterine state: that in the latter case, it would only take place through the exploded system of appetency and conatus, which would, in all cases, require internal organs to be formed over which the will or conatus has no influence, and other organs which must precede the very conatus to which they themselves are ascribed; and, therefore, we dismiss this alternative at once. Against the supposition of the mutual production of this chain of organisms, by some increment in each grade in the uterine state, we have stated this insurmountable objection, that a male and female being then the only assignable means of such a production, we have just the same means of change now in every grade; and yet the lower grades can never breed up to the higher. That these various species produced each other, or became regularly gradational by irregular appetencies, are therefore suppositions equally untenable.

Were these various genera produced by some *common cause?* It is an axiom in physics, "that the same cause, under the same circumstances, cannot produce different effects." The disciple of Lamark might, however, observe that the same cause, under different circumstances, may have produced these assimilated variations. In reply to this suggestion, we would ask, what possible variation of circumstances only, could make the *same physical cause* produce a monas termio, and a human being, a polypus and a Newton?

Now, what has been observed, has been applied to the proof of the independence of *species*. But I have here applied it to the independence of *genera*, thus entirely removing the plea that now and then species do commingle. We lose nothing in the point of correspondence, that we care to retain; for there is too great an affinity of plan between even the extremes in the animal and in the vegetable world, to suppose, for a moment, that the correspondencies are accidental; much more then between kindred genera. We consider, then, all the distinct genera in both departments of organic life, as so many independent correspondencies. But our independent correspondencies do not stop here. It follows, of course, that the organs and functions by which they are distinguished, must be independent of each other, though found united in the highest grades; for these organs and functions have been added successively to the rising grades, till they meet in man himself. In the separation of those faculties, in their succession, or increase, or decrease, [illegible] the chain of organic [illegible] they are inde- [illegible] how harmonious [illegible] frame. It would [illegible] subject. But I refer [illegible] Bridgewater Treatise, [illegible] Theology and Dr. S. [illegible] I select one re- [illegible] from Dr. Crombie,* re- [illegible] harmony and correspon- [illegible] general. "If," [illegible] possessed this pro- [illegible] animals of various kinds [illegible] their properties and qua- [illegible] happen that, out [illegible] have been produced, no [illegible] found with a superfluity, [illegible] of organs—quad- [illegible] with two or more heads; [illegible] unequally [illegible] or five legs: hu- [illegible] unprotected [illegible] hideous mal- [illegible] find animals gene- [illegible] where the exist- [illegible] adapted to their [illegible] had been excluded, is [illegible] innumerable formations multitudes of such monsters would not have been generated?"—(Nat. Theol. vol. i. chap. i. sect. 6.)

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* Natural Theology, [illegible] sect. 6.

Now, as the same writer justly observes, these admirable adaptations through all the species cannot be ascribed to a physical necessity, or those deviations in individual instances, arising from some clashing of general laws, called monsters, could never have occurred. There *can* be deformities—why were they not as common, at least, in the species as in individuals? The species are independent existences; so are their several organs in each instance. There was a chance, as great as the number of parts to unity, that some limb or other member would be incongruous, superfluous, or unsymmetrical, and yet the species might live and propagate. I say a chance, for a blind necessity is the very origin of what we call chance. It is chance. The only wonder would be, under such an hypothesis, that even two organs should perfectly accord.

The correspondencies between animal and vegetable life are still more remarkable.

The wildest dreams of Lamark never probably extended to the identity of the animal and vegetable *eidolon*. If he did not consider them as distinct branches, he must have been prepared to maintain the extravagant position, that they are all different developements of one type, and that either the oak and the polypus are adjacent grades, or some proximity equally incongruous.

It is probable that the two lowest grades of the two departments are closely allied; but this is a very different circumstance from an identity of series or of cause. These two great branches of organic existence may be connected, as the members of the letter V; but if the several grades which form one of the limbs (the animal limb for instance) have been proved independent of each other, though united in one chain or line of affinity; and if just the same may be said of the vegetable series,—it will not be questioned that the branches themselves are independent of each other. The independence is evident. But how intimate is their connection! how indispensable to the lower, to the higher department! Without vegetables no animal species could long exist, for the carnivorous genera would soon devour the whole race. There are also many other connections which, if not so strikingly indispensable as that of food, are not less obviously designed. For instance: their respective actions on the air when the vegetable and animal respire, and mutually fit it for each other's respiration. For the carbonic acid ejected from the animal lungs, is just the principle that the vegetable inhales; and the oxygen ejected by the leaf (the vegetable lung) is just the principle that makes the air salubrious to the inhaling animal. Animal life especially requires this provision, as the unhealthiness of crowded cities evinces. Now, the processes by which this circle is carried on, are very complex, and the influence on the mass of air very extensive. But how came the complex lungs of the vegetable and animal, so entirely different in organization, and so distinct and independent in origin, thus to correspond in their uses? There is only one solution.

There is also a numerous class of insects, to whom many vegetables are not only food, but their sole habitation, their very matrices; and one species of affinity described by Dr. Macculloch, is so remarkable, that it must not be omitted.

Speaking of the bark-puncturing insects, he says: " The oak is punctured, and the egg is deposited, when immediately a new arrangement takes place in the vegetating process, and often within two or three days the new production is completed. Nor is the constancy of the production the least remarkable circumstance; while it is plain that there is a provision made in the plant itself for the security and perpetuation of these several species, waiting only for the equally provided stimulus of the insect, that it may form the intended nest. The design cannot be doubted, under such a perfect adaptation, in two departments of nature so differing" (so independent).

"If it is an insect architecture, it is one under which all the labour falls on the plant." (Attributes of the Deity.) The beautiful pink ball of moss, found on the twigs of the common dog-rose or brier, is a striking instance of this provision. The vegetable not only prepares a cell for the insect, but covers it with this beautiful bower. Will it be said, in both these instances, that this is only the effect of diverted sap, and the moss merely rudimentary leaves? Let the sap be diverted by any other means than this insect, and the result will shew the true inference.

Ex. 5th.—Of the Correspondence between certain Birds and their Prey.

The prey of birds must be either animal or vegetable substances, and in either case an original dependence of one on the other is certain; nor could there be any relation like cause and effect between them. If, then, the correspondencies between the bird and its prey have not grown out of the use, and are too many and marked to be accidental, the instances are unequivocal proofs of independent correspondence.

How is it, but from design, that the insect-eating birds have slender, the grain-eating birds stout, strong, bills? Did the former take to insects as the food they could most easily masticate?

This might have been the probable reason, if they could as easily have digested grain; but it requires only the most superficial knowledge of natural history to know, that the carnivorous and herbivorous stomachs, throughout nature, are different, and that a gizzard would be as useless to an insect-eater, as a thin bill to a nuthatch. Will it be said, that the thick bill of the grain-eater is accidental? We have only to open the beaks of most of them to see a hard knot placed in the upper mandible; and this, with the gizzard, is decisive of the case. Did this joint conformation lead those birds to grain, the others to insects? Unquestionably: but why were not the bills in some cases the reverse of the faculties of the stomach? There might have been hundreds such instances of inconvenient formation, without extinction of species; and even if the species had become extinct, no blind power would have cared for that alternative.

The next example I shall take, is the notched or serrated bill of the fish-eating birds, the design of which is palpable; nor, as Paley truly observes, can we discern the least capability in this soft food to notch the bill; which effect would be much more likely to be produced by hard substances, such as the kernel-devouring birds break with their beaks, and yet their bills are not notched. How clear is both the independence and the adaptation!

But to shew how entirely this notching of the bill is a provision—that it is not accidental, but intended, we may remark, that when a bird which feeds on fish has not a serrated bill, one of the claws on the foot is notched, and by this it holds its prey.

I shall offer one other instance of the concurrence of independent things. The late Dr. Macculloch, in his posthumous work, says: " The gannet is destined to feed on the fishes which swim beneath the surface of the water; not like the gull, on those which frequent or approach the surface. And being unable to swim under water, as the divers do, in pursuit of its prey, it plunges from aloft into the sea, and with such force as to sink thirty or forty feet or more. Such are the velocity and weight, that the blow would probably kill the animal, were it not for a contrivance forming so singular an exception to the universal structure, that we can neither question the design, nor avoid admiring the invention. The skin of the breast is detached from the body, excepting along the ridge of the sternum, and the animal has the power of inflating it, so that the body becomes enclosed within a temporary bladder, the elasticity of which prevents that shock which would otherwise be deadly. And this contrivance serves also as a buoy, to bring the bird and its prey up to the surface; since, at the depth to which it sinks, and without the power of submarine swimming, it would be otherwise drowned." Here is an adaptation between a very peculiar formation of the body of a bird, the habits of a fish, and the nature of water.

Ex. 5th.—The Integuments of Animals.

That fishes are covered with scales, birds with feathers, and quadrupeds with hair, is now as much a necessary consequence of the laws of physiology, as that they are distinguished respectively by fins, wings, and arms; but the question is, whether there was any original necessity for these associations. Their admirable adaptation to their respective habits, &c. is unquestionable: a fish with hair or feathers, a bird with scales or hair, and a sheep with scales or feathers, would be pitiable creatures; and yet if an animal has quills and nails, it might have had scales: the mantis has something very similar. All birds might have had hair. The cassowary has feathers which closely resemble it; and certain fishes have appendages as fine as hairs; and there is no cause why all might not have been incumbered with a draggled train, that is, there is nothing in the mechanical action of the elements they inhabit, which can have determined the associations, for birds and beasts dwell in the same element. And, finally, the connection of integuments with the other parts is not even now so fixed as not to be alterable within certain limits, because wool becomes hair, and *vice versa*, by change of climate. Evidently then their appropriate integuments were arbitrary selections adapted to, and not caused by their respective habits or habitations.

Hooks, barbs, and tendrils afford the same inference. It will scarcely be contended that the little hooks on a bat's wing, the barbs on the tongue or sting, were originally the necessary result of the general structure of the respective animals to whom they are beneficial. They are necessary now; but what necessary connection could originally exist between the body of a bat, and the return of the little bone on the end of its wing, except what arose from the foresight of its essential use to the animal? Like a barb, which, as Paley observes, is a truly artificial instrument, it exhibits its own use to the eye at a glance; but there could be no original, no physical necessity, by which the other specific peculiarities of these animals were associated with barbs and hooks, or accompanied by a pointed tongue or sting. The important use of these trifling appendages is evidently their sole cause.

The little tendril which proceeds from the stalk of weakly vegetables that require support, is, if possible, a more independent provision.

Why do these appendages never proceed from the more exuberant stalks which need no support? Their aid is very important, for if they cannot catch hold, the stalk does not attain half its growth, as we witness in the common pea; but this intention apart, there is no physiological reason why they do not cover the stem of an oak or cabbage. No stalks have so little extra nutriment to spare as those that throw out tendrils. Atheist, explain this how you can!

Ex. 6th.—The Anomalies and Disorder in Nature.

"All bodies, in every state of aggregation, expand by heat, and contract by cold." Now, water forms a marked exception to this law. Like other bodies, water continues to contract on the removal of heat, till its temperature comes down to 42° or 43°. At this point, water (alone) begins again to expand. Hence ice is lighter than its bulk of water, and swims, and is melted, or we should have accumulations of unmelted ice almost in the tropics.

Another peculiar property of water is, that the temperature makes a *stand* at the thawing and boiling points, or, in other words, the heat being *latent*, we cannot raise the temperature of the mass till the whole is thawed, or converted into steam, the consequences of which are very important. If it were otherwise, thaw and evaporation would be instantaneous, and the effect often destructive, always annoying.

The anomaly of the atmosphere has been already mentioned, as the only combination of gases, in the proportion that other gases unite, without forming a chemical union; by which anomaly the great mass of the atmosphere is always the same, and those partial and destructive effects of the accumulation of one of the constituent parts, from local circumstances, is prevented by the free passage of the other, to neutralize the intruder.

But such violations of nature's general laws, where important ends are answered, is a kind of double or complex independence. It is an independence in independencies. The laws are independent, and there are deviations from the laws, or ultra independencies; for the atheist's great principle is the uniformity of nature's laws. Here they are infringed, and in these respects only, and the infringement is palpably beneficial: the uniformity would have been palpably injurious.

The *disorder* and *disturbances* in nature, are instances bearing a similar or kindred inference. The loud plea of atheism has ever been the necessity of order, arising from the uniformity and invariability of nature's laws. But it is difficult to imagine by what argument the atheist can reconcile to his creed the fact that there is much disorder and irregularity in nature, amply sufficient to shew that there is no *necessity* for order and invariable regularity. In fact, the phenomena of nature are independent of any invariable principle. They are independent even of the law of uniformity.

The motions of the planetary system are not uniform, but subject to great disturbances and irregularities, which put them in a state which but for certain deeply involved circumstances would destroy the system.

The vicissitudes of the atmosphere are all irregular, and often exhibit vast disturbances. It is, in fact, a combination of various violent irregular powers and forces, but so adjusted as to return to an equilibrium.

The several changes which the crust of the earth has undergone, are not regular, but abrupt changes produced by violent disturbing forces, under no assignable rule; yet how admirable is the result of these destructive revolutions!

Again: There is no regularity or order in those departments of nature (as Paley truly observes) where they are not wanted, as in the shape of continents, islands, rocks, clouds, mountains, &c., for this would be neither useful nor ornamental. But if nature was under a necessity of order or uniformity, how can we account for the exceptions just where they are wanted?

Again: By the too evident formation of monsters, idiots, and other malformations, says Dr. Crombie, we see that irregularity and disorder are not only possible, but not very unfrequent. "It arises," says the atheist, "from the disturbance of the laws of nature." This is the very objection we make to his plea of the necessary order and inviolability of those laws: a very little obstacle can divert their operations. They easily disorder each other; and this being the case, as Dr. Crombie observes, "the general harmony and order of the whole system is the more strikingly the effect of design." If, as the atheist admits, necessity be capable of producing irregularities, we desire to know why general confusion, instead of order and harmony, is not the condition of our system; why this necessity does not give birth to monsters of hideous form,—"Gorgons and chimeras dire,"—in endless variety?

Dr. Crombie says again: "We find anomalies and evils resulting from the operation of existing causes; we find these causes so nicely adjusted, that the slightest alteration is accompanied with disorder, not only in the physical, but also, and especially, in the moral and intellectual world. The earthquake and the volcano, the hurricane and the pestilence, famine and disease, malformations in the vegetable and animal creations, the mental imbecility of the fool, and the insanity of the lunatic, clearly prove that evils are not only possibilities, but realities; and if an unintelligent necessity had presided, we can see no cause but what is gratuitously assumed, why this necessity should not have produced, if not a preponderance of these evils, an equal number of direct, as of incidental disorders;—why half the globe is not perpetually suffering under volcano or earthquakes, or why idiotism or insanity are not as common as their contraries." This, like the preceding anomalies, may be called a compound independence. The phenomena are independent of each other—the disorders to which they are subject are independent of the general laws:—yet these disorders and irregularities are either found where they are beneficial, or are subject to such limitation as interferes not with the harmonious course of the whole. Thus even violence, disorder, and anomaly are coerced within the limits of a common plan.

Ex. 7th.—Correspondence of the Body and Mind.

It is impossible, on natural principles, to determine positively whether mind be entirely a different substance from matter or not; neither shall we attempt to cope with this mysterious question on these principles. But mind is either material or it is not. If it be not material, then it is something of a nature entirely distinct from matter, inasmuch as we cannot even conceive its existence. That such a complex system as the human mind should be found in intimate connection with such a complex system as the human brain, nerves, and senses,—the one system being altogether spirit, the other matter,—without being adapted to each other by a Sovereign Intelligence, is impossible.

But suppose mind to be altogether material, we cannot question that, besides the organism which we can detect, there must be an infinitely subtile substance that is much too minute for inspection, and which evincing a strong affinity, as far as we can discern, with electricity, is perhaps an imponderable substance, more spiritualized than even light. Even if this be the case, still between the usual actions of any ponderable or imponderable substances, and the operations called mind, there can be no natural connection and affinity. Mr. Whewell says: "There can be no wider interval in philosophy, than the separation that must exist between the laws of mechanical force and motion, and the laws of moral action." (Bridgewater Treatise, chap. ix.) The irregular and discursive nature of thought is so entirely dissimilar to all other processes of nature, so entirely contrary to the uniformity of the other laws of matter, even the most imponderable, as light; that if material, we cannot hesitate to say it must be a species of matter *sui generis;* and if so, how came it united to a system of that matter which is under the laws of gravitation, chemical affinity, physiology, &c.? How came these two totally distinct and independent substances, without a single common property, to be found united and acting together in two of the most complex systems of nature, the animal structure of the brain and senses, and the moral system of the passions and intellect? Will it be alleged that this is but one system, viz. a subtile machinery, all consisting of ponderable and imponderable matter; and that the rapid and lawless excursion of thought is a law of physiology? We ask what resemblance does it bear to the other laws of physiology; to the circulation of the blood, or secretion, or absorption, or assimilation? What resemblance to the laws even of imponderable substance? They have all their *regular* laws, from which they never swerve: matter-like, they obey these laws implicitly. Mind also has its laws, but of quite a different nature. There is, in the action of mind, an irregularity, a wild, lawless, excursiveness, which alone would make an unpassable gulf between thought and any of the other laws of passive matter. We do not say that mind is subject to no law, but to no law common with other matter, or ever otherwise exhibited by matter. There is no natural bond of affinity between the law or laws of actions that never deviate from a regular course, and the laws of action that never take a regular course, but are infinitely capricious and excursive. Well may Mr. Whewell say, that " there can be no wider interval in philosophy." How then came two systems of action, so entirely different in nature, to be adapted to each other? There can be but one reply,—because they were made to correspond.

Ex. 8th.—The Correspondence of Man's Mental Faculties and Passions with External Nature.

But if any one doubts of the independence of the systems of mind and body, because they are united in one frame, and sprang from one germ, he will not question the independence of the mental faculties on the exterior world. We have already specified the correspondencies of the organs of sense with the external world, and the unequivocal examples which they afford of a union of independencies. The correspondencies of mental feelings with sensible objects, is an affinity of things yet more remote in their nature. There is no conceivable bond of union between a sentiment and the material object that excites it, but what must have been arbitrary when the human mind was first formed. Under existing circumstances, the correspondence certainly follows of course; but no law in nature could have strung the feelings of the human heart (whether material or not) to the millions of objects that draw them forth. Why are some objects agreeable and generally beneficial, others disagreeable, and generally hurtful? Why, also, are not some faculties without any corresponding objects? These moral correspondencies are thus briefly but admirably described by Dr. Crombie: "Man is placed in a world where he is surrounded with numerous objects, calculated to excite desire, to gratify sense, and to communicate pleasure. Between these and his *mental* susceptibility of enjoyment there exists a mutual congruity, which, with no probability, can be ascribed to chance. We perceive a reciprocal *adjustment* of the objects around us, and the organs of sense. The former are fitted to impart, and the latter to receive pleasure. Certain sounds delight the ear, certain colours are pleasing to the eye, certain tastes are grateful to the palate, and certain odours agreeable to the smell; others, on the contrary, are offensive to the sense." (Nat. Theol. chap. ii. sect. 7.) But how is it, as the Doctor very pertinently asks, that we have not faculties for which there are no kindred gratifications or correspondence in external nature? The most excursive fancy cannot imagine any physical connection between our moral faculties and these external objects. What a wonderful combination, then, of independencies are to be found in these affinities? Do the feelings accommodate themselves to circumstances? Do we like merely through the influence of custom? There are many things which custom may render more endurable, but which are ever displeasing. We well know the utmost extent of that accommodation in painful things. Why should we doubt but that our capability of accommodation is equally limited in deriving pleasure? Besides, if accommodation made external nature full of sources of pleasure, the question is only removed thus: how came we by mental faculties capable of receiving, through accommodation, such gratifications from things of a nature entirely different from human feelings. But the objection is absurd. An infant enjoys all the pleasure it can derive from the external world more acutely than a man, and among the rest a most vivid perception of the beauty of colour. At a succeeding age the beauty of form is felt long before any association with utility; and the exquisite sensibility of the youthful heart to music, to all external objects which call forth the higher and purer feelings, is not to be explained, but by supposing it strung by Intelligence to enjoy them: for it is palpably evident that there can be no mutual causation, no physical affinity of origin between a refined human sentiment, and the various objects that excite and gratify it. If no other instances in nature drove us to the conclusion afforded by independent correspondencies, there would be no other alternative here.

I cannot conclude this particular instance of independent concurrence better than by a quotation from Dugald Stewart:

"Those who attend to the operations or diversities of consciousness may perceive, with apprehension not less clear than that which follows the apprehension of the senses, an adaptation of the variously modified arrangements of an *inward nature*, not visible or tangible, but having *nicely adjusted relations* to all that can be seen and touched . . . . . . the external objects of perception to internal objects of consciousness—the external terrible to internal fear—the external lovely to internal love—the external magnificent to the heart-swelling emotions of sublimity." Now it is utterly incredible that there can have been the least physical connection between any natural causes by which the human mind was thus strung, and the various causes of the things that excite its sensibilities. It is the bathos of absurdity to suppose there was a common physical connection between a limestone rock, and the human emotion of sublimity; or a common physical cause for a rose, and our perception of its beauty. How, then, could they possibly correspond with thousands of other similar correspondencies, but by a cause that adapted the internal structure to external nature?

SECTION II.—*Prospective Contrivances, and a Change in the Law of Organic Formation.*

IT may very naturally be asked, whether there are no cases in the numerous correspondencies of nature, in which the design is so evident as to preclude the necessity of proving the original independence of the phenomena? To this question it may be replied, that, in the cases generally cited as instances of *prospective contrivance,* the independence needs not any proof, not because it is immaterial, but because it is in those cases so palpable as to admit of no question, and the argument derived from it is superseded in cogency by the more immediate inference of design. Such instances of prospective contrivance have been admirably detailed by Paley; and his inference from them would have been complete without any particular proof of independence, had he known and cited the geological facts which clearly demonstrate a *beginning* of the creatures which exhibit these proofs of provision in their structure.

But it is evident, that before the prospective design is established, it is necessary to prove that there was a *beginning* of the organic creatures, which are the subjects of this species of proof. This evidence is an indispensable basis of the conclusion; for had they existed in an eternal succession, of course there could have been no provision. With the physical knowledge which we now possess of the beginning of organic beings, the conclusion is incontrovertible.

Of provisional contrivances I shall select two instances: first, the preparations for the reproduction of organic creatures by a new principle, or the change from formation to generation: secondly, the provision for milk in the female. They are sufficient of themselves to bear the inference without any other example.

1st: The independent correspondencies of sex.

In all these instances throughout the whole animal and part of the vegetable kingdom, there is a double indication of contrivance: first, there is a correspondence of two distinct individuals; and, secondly, that correspondence was in the *first instance* entirely provisional, that is, it could be ascribed to no other cause but a provident cause. The inference of parentage could not have acted on creatures first formed without parents. Did nature provide for reproduction? There is a vague idea that nature has a tendency to form provisions for the welfare of each individual, because those individuals could not long exist, without they were formed on plans of self-preservation; and blind nature has been complimented for her tender regard for her children, forgetting that she would not shed a tear if they all perished to-morrow by famine or conflagration. But in these instances there is not even this principle to allege. The provision of sexes, though it leads to the preservation of the species, yet has nothing to do with the welfare of the individual. Upon this principle nature would never have built up, in the frame of one individual, an organization useless, without some corresponding organization in a second individual, in order to make a third individual useless to the welfare of the other two. To suppose nature was providing for the continuation of the several races, when she divided the sexes, is not merely ascribing to a blind necessity actual foresight, but this additional mark of mind, that, having formed all these creatures on one plan, she substitutes another which was evidently more simple and less troublesome than perpetual formation. It has been seen that the various species did not produce each other; we find, therefore, an independent formation of sex in each individual species. How, then, was this division made in such variety of instances?

No peculiar state in which external nature was placed at that period, could have contributed to this change in the mode of organic formation. Whenever the production, by generation, succeeded the production by individual formation, however different the principles by which the first and second pairs were produced, nothing external could have effected the alteration. A mature male and female must have been produced in the first case, or the second mode of formation could never have occurred. And as there was nothing else requisite for the second production besides a mature male and female, no difference of *external* circumstances could have had any effect or influence in producing the change—*causa erat in se ipsis.*[*] And it could not arise, then, from a change of *internal* circumstances, for the second mode of production must have been forming at the same time, and coeval with the first: unless we admit the extravagant supposition, that the first creatures were neutral, and acquired difference of sex by appetencies that could not have existed till those differences produced them. The difference of sex, then, is a phenomenon for which it is not only impossible to prove a cause, merely physical, but even to conceive it—and it is in the strictest sense of the word *provisional.*

2nd: With regard to the provision of milk, the reader will bear in mind that we are speaking of the *first* instances of its existence in each species, which cannot, therefore, be ascribed to any preceding influence from parentage, or previous parturition; or, in fact, any thing but *foreseen wants.* "It is not easy," says Paley, "to conceive a more evident prospective contrivance than that which, in all viviparous animals, is found in the milk of the female parent: at the moment the young animal enters the world there is its maintenance ready for it. The particulars to be remarked in this economy are neither few nor slight. We have, first, the nutritious quality of the fluid, unlike in this respect every other excretion of the body, and in which nature hitherto remains unimitated, neither cooking nor chemistry having been able to make milk out of grass; we have, secondly, the organ for its reception and retention; we have, thirdly, the excretory duct annexed to that organ: and we have, lastly, the determination of the milk to the breast at the particular juncture when it is about to be wanted. We have all these properties in the subject before us, and they are all indications of design.

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[*] That is, the secondary cause.

"The last circumstance is the strongest of any. If I had been to guess beforehand, I should have conjectured, that at the time when there was an extraordinary demand for nourishment in one part of the system, there would be the least likelihood of a redundancy to supply another part. The facts are briefly these:

"1. This aliment is prepared by a temporary deviation from the previous and usual procedure of nature. 2. It is not provided till it is necessary, and the supply ceases when it is not required. And, 3. these circumstances are met by the corresponding instinct of the future child." (Paley, Nat. Theol.)

Will it be said, "the procreative principle, acting upon the secernents, produce this provision?" True; but the question is, how there came, in the *first formation of a female frame, previous to any birth*, to be vessels which were thus to act on such a *contingency?* Again, will it be said, when the stimulus of this principle, and that of the action of the child ceases, the secretion naturally ceases. True; but how was this stimulus derived from a second individual, adapted to the period of the wants and growth of a third individual, *previous to its existence*, without foresight and contrivance?

Again: The instinct which prompts a child to suck, is another independent concurrence entirely prospective. No physical cause could so adapt the nature of the first child in the womb, to the external structure of the mother, as to be ready (void of all reason) to act as an air pump, in order to draw its nourishment. What should teach the child that such an action would produce food? What child seeks it not?

The date of this and many similar provisions (which the nature of the subject makes it as unfit as it is unnecessary to detail) is the period when a mature *male and female* of each species was *first* formed; and I repeat, that it is not of the least consequence as to the inference by what means this division of sex concurred with these other concomitant provisions for the second mode of formation. We are sure there was an original formation of two sexes, which had nothing to do with parentage, milk, or any other sexual principle; and, whether, at that period, the two sexes were formed together (as is infinitely the most probable) or came gradually, in the course of time, we are equally sure that nothing but prospective contrivance could have caused two detached and independent individuals, constructed on different principles, thus to co-exist in mutual conformity to a future purpose. They had a beginning. They had a different beginning from the principle for which they were constructed; and they appear, with the most complex provisions, of no use whatever but to alter the principle on which they themselves were formed mature and perfect. This is Design.

Hence also our final and conclusive clause in the evidence, viz., the proof of a change in one of nature's laws: For, these facts being admitted, the phenomenon constitutes a *change* of one of *the laws* of matter; which not being possible for matter itself to effect, the existence of a power *ab extra*, is clearly demonstrable. The writer is unable to conceive by what reasoning it could be proved, that the formation of the very *same organic creatures*, by a subsequent process, entirely different from the first (though we grant the preparations for the second process to have been coeval with the first) is not a change in the law of animal formation; for the one mode of production has entirely superseded the other. But, if any law of nature be changed, it must be by a Power superior to nature.

Our proposition was this—That if the existing phenomena of nature proceed from physical causes, they were entirely independent of each other; and our inference is, that there must have been an Intelligent Creator of causes which, although united by no physical law, could yet produce an harmonious system of effects.

Now the preceding examination of the theories of physical causes and of the existing combinations of nature, so far from shewing a probability of a physical connection in the ultimate causes, demonstrates the absurdity of such a supposition.

There are three means of physical connection, either of which being proved would have accounted for the present combinations of heterogeneous things, and invalidated the argument of independent correspondence—*mutual derivation*, or *a common cause*, or *a connecting cause*. For a derivation of the present phenomena of nature one from another, there is not a shadow of evidence. The only attempt to demonstrate such a derivation is the theory of Lamark; and that theory, if it were valid, is confined to the correspondencies in the organic department. Neither of a common or a connecting cause did we discover the remotest evidence or even pretext, except in the theory of La Place, which is confined to the astronomical department, and in which gravitation, the most general law of nature, fails, as a common or connecting cause, to account for the very limited phenomena which the theory embraces.

The subsequent examination of the actual correspondencies in nature, more than confirms the inference from the fallacy of these theories: for instance, a mutual derivation, or a common or connecting cause of the human eye and the imponderable substance light, and the compound of two gases forming the atmosphere, is a supposition extravagantly absurd. But if there was no such connection between the physical causes of the most complex correspondencies, which correspondencies had a beginning, as is clearly ascertained by the later formation of organic creatures, it is a minute correspondence of total independencies; and the conclusion that intelligence alone could have caused such correspondence is much more evident than that the twenty-four letters of the alphabet could never fall (by a blind necessity) in alphabetic order and in a straight line.

I am aware of only one plausible *evasion* of this conclusion; and that is, by admitting the independence and denying the inference from it. Our opponents may assume, that the ultimate physical causes of these independent phenomena were the eternal laws of matter, and that their nature was such as to have produced, after various evolutions, the present order and correspondence of the material world. And assuming this, they may defy us, on the same principle by which we denied the orderly effects of a blind necessity, to prove that the order may not be the effects of such eternal laws. Admitting that a blind necessity could never *begin* to arrange a system of exquisite correspondence, they may seek to evade the concession, by asserting that the arrangement was never begun, but necessarily succeeded to other changes, all resulting from the nature of laws independent but co-eternal. Therefore, to the argument derived from the irregular sequence of the letters of an alphabet, unless arranged by intelligence, they would reply that nature's alphabet arranged itself, worked itself into the present order by its own properties attached to matter *ab eternis*.

We shall not meet this evasion by any abstract argument, either respecting the nature of matter, or the possibility of such uncaused correspondencies. We cannot prove that matter, *per se*, having only those properties without which it could not exist, was not eternal; and admitting matter eternal, it would be a very nice and subtle case to determine, *on abstract principles*, whether certain laws, not essential to matter as matter, but co-existing with it eternally, could or could not have such correspondence in their effects. We shall deny the hypothesis, not on these abstract principles, but on physical facts. On the foundation of those facts, respecting the beginning and progressive nature of the present orderly system, stated in a preceding chapter, we deny that matter, with all its present laws and none other, could have been eternal. We deny this, from the phenomena which have been actually manifested by matter since it came under the cognizance of human knowledge. The reader may, perhaps, remember, that this was our inference from those physical facts of a beginning and progressive formation; but that the conclusion was then waved, *pro tempore*, to examine other evidence; but as an objection is now advanced, which admits the independence of the present phenomena on each other, but accounts for their correspondence on the assumed fitness to produce such correspondencies in coeternal laws, we insist upon the inference from those facts—it meets the objection at once.

But we shall meet this argument by *other* facts—facts which would of themselves authorize us to say, that matter could never manifest such phenomena undirected by Intelligence. For what must the atheist necessarily maintain respecting the origin of the present order? He must, on his principles, maintain that during the chaotic state, nebular or fused, to one of which we can with certainty trace all the materials of the crust of this globe to a depth surpassing human measurement, the particles of matter were surcharged with all the properties and relations with which they have been since found; that although the matter was either a burning gas, or molten mineral, under which condition all known substances would become amalgamated in an homogeneous mass, yet that the particles did not lose one single property which they have since manifested in combination, not even the particles now composing the finest down of a feather being deprived of their nature as parts of a feather. It must be maintained, that these particles might not only possess the properties ascribed to them, in our brief description of the atomic theory, by which (if adjacent) they might unite chemically; but that they had also the capabilities of all the mechanical unions in which they have since been found in organic and inorganic structures.

But this was not enough: to have constituted the various detached substance which those particles of this molten fluid have since formed, there must have been, by some physical means, a juxtaposition of those very particles which were surcharged, with the properties necessary to constitute each separate thing, whether organic or inorganic. But we neither know nor can conceive any physical cause, any law or property in matter, that could accumulate the particles of these various detached substances, in just the quantities and places where their relation to the whole system required them to be assembled. It is not as if all the particles of like kind were assembled in one place, and constituting so many different detached substances over the globe; for this effect might possibly have flowed from each particle in the fluid mass seeking its kindreds by chemical affinity; it is not as if the heavier substances were invariably the lowest substances, for this might have resulted from gravitation; but there must have been a collocation of particles dissimilar in nature, but such as would combine to form the various structures, and just in such quantities and places as was required by the relation of each separate structure to the whole great scheme. Thus *every* atheistic hypothesis must ascribe to these particles both self-organizing and self-collocating powers, for which there is not only no evidence in nature, but which is utterly inconceivable. Such a theory, by its unphilosophical extravagance, ought to be the scorn of those, especially, who in the present laws of nature profess to find an ultimate cause for every thing.

I repeat, we might from these facts draw the inference, that no laws of mere matter could effect these things; but that in such evolutions matter must have been under the immediate and continual direction of Intelligence. These proceedings are not the operations of any general laws, because each existing species, in every department, must have required a distinct set of causes; and if so, they must have been the arbitrary products of mind. I say the premises would authorize this conclusion; but we will draw our inference under the legitimate mark, and say that, if these various species were formed by any laws in matter, they could not be the same laws which are now carrying on the system on this planet, and therefore, those formative laws are either suspended or annulled: for no homogeneous mass now resolves itself into a variety of substances; nor are organic creatures, beyond the lowest grades (at any rate), ever now formed under any circumstances, although all the materials of such formations exist in abundance. But laws which are either suspended, or become extinct, cannot be eternal; and, therefore, the supposed ultimate physical causes of the atheist cannot have been eternal.

Again: If the evolutions of matter have been gradational, not rotatory or periodical, it is impossible that the present laws of nature could have alone wrought those changes, because they all act uniformly under the same circumstances; and as the laws would make all circumstances (by the atheist's hypothesis), they could not have been altered by the circumstances which they themselves made. It is true, some existing phenomena, as the increase of rivers from springs, the growth of organic structures, &c., have the semblance of gradation; but they and all other instances of increase are parts either of a perfect system of rotation or a continual succession of the same things; but the present laws of nature, undirected by some controlling cause, could never have wrought the gradational changes (supposing them to have any constructing power) which the system itself has so unequivocally manifested.*

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* It will not be supposed by any philosophic mind, that nature revolved in a perfect circle, *ab eternis*, but that at a certain period some accidental violence disorganized the matter of this globe, or of the solar system: but if it were so, a system of rotation could never again spring out of a system of gradation; so the laws of matter must have been changed under any supposition.

Therefore, there must have been not only a *creation*, but a *superintendence* of the laws of matter, to produce these effects; and it is an axiom that matter cannot create or control its own properties, powers, or laws. It necessarily follows, then, that these phenomena were caused by a Power that is superior to matter—Who alone could impart or direct its laws—and Who has evidently substituted the principle of organic formation for that of generation.

In what manner that Power has governed the laws of matter, whether by imparting them successively, or directing their operations according to the changes He willed to produce, would probably be a hopeless speculation: all that is here asserted is, that these laws had a beginning and a direction; and this could only be effected by a Power that is supernatural and intelligent.

If, then, respecting the laws which are supposed by our opponents to have caused the present correspondencies, the present order of nature, we have physical proof, *either* that there was a *beginning*, *or* that there was a *progressive action*, or that there was a *cessation* of those laws, it is evident that these laws cannot have been eternal. Now, we have ample evidence of *all* these circumstances. Therefore the supposed coeternal physical causes of the atheist are merely imaginary; and the physical causes of all these independent correspondencies had a beginning.

But there is only one cause which could make independent things (having a beginning) to correspond in one harmonious system. There is only one cause which can create, alter, suspend, or annul the laws of matter. That cause must be both supernatural and intelligent—that Being we call by the sacred name of God.

CHAPTER V.

SECTION I.—*Proofs that the Creator is a Moral Being.*

PALEY has thought it necessary to prove the *personality* of the Deity, in a chapter detached from the general evidence of contrivance and design; and it was well that he thus prevented the error of confounding the Supreme Intelligence with a mere personification of laws. Having shewn the contrivance as stamped upon the whole creation, and the necessity for a First Intelligent Cause, he argues, that that Intelligence which can contrive and design must be a Person. But on the no broader principles, I think a more extensive and interesting conclusion might be at once established, viz.: that the Cause which contrives and creates *moral* creatures, must Himself be a Moral Being; I mean, that this inference, which is generally deduced from a distinct examination of the moral world, may be obtained immediately from the mere consideration that He has created moral creatures. The term *personality*, as applied by Paley, comprehends an intellectual but not a moral nature: but the creation of man being proved, the moral nature of the

Creator is so evidently deduced therefrom as scarcely to require any argument. It is clear, that the constructor of any machine must understand the mechanism he invents. The constructor of a moral being must understand the moral system he has planned. And to understand a moral system involves a moral nature in the being that comprehends it. It might as well be contended, that Dr. Babbage, the inventor of the calculating machine, does not comprehend the science of arithmetic, as that the Creator of man does not thoroughly understand all moral science. But to comprehend moral science is to be a moral being.

This inference is built upon the simple principle, that a cause must have in itself, *under some modification or other*, all that it imparts. A mechanical cause imparting any power must possess, under some modification, the power that it affords. A chemical cause must have in itself the virtue it imparts in combination, quite different in appearance to any phenomenon in the simple ingredient, but residing in it. The cause of order and correspondence must have in itself also, under some modification, the ideas of relation and adaptation, regularity and gradation. I use the word *ideas*, not as applicable to the Divine Mind, for we know nothing of the operations in that Mind; but as the only word which the language furnishes to express the truth here stated. In like manner, if among the contrivances of that creating Intelligence there is a creature not only possessed of intelligence himself, but of passions also, the contriver of those thoughts and feelings must involve in His own nature, under some incalculably superior mode, that intelligence and those feelings, not as a patient, not as Himself susceptible of them, but as *knowing them and perceiving them.*

First: That the contriver of the faculties and passions of man must *know* what moral ingredients He was combining in the human mind, seems quite self-evident. This needs no comment; for if a designer does not know the several parts of an harmonious combination, he could not bring them together.

Secondly: The contriver of human faculties and passions must not only know but *perceive* them; because such things cannot be known without being perceived, not as a patient, not as we feel them, but as felt by us; which is a very different mode of perceiving them, and may be illustrated by familiar instances. A man may make a toy adapted to please a child, and enter into all the effect which it will have on the child's mind, and yet he may not in the least participate in the child's passion for the toy. He perceives the pleasure he imparts, but he perceives it as in the child's mind, not in his own. I am aware that no illustration which attempts to explain what is in the Divine Mind can be applicable beyond a certain point; but it may convey a truth not completely conceivable.

This is not to assert a resemblance between the Divine and human nature, except in the faculty of contriving or designing. We *must* believe that He has a designing Intellect, because it is only on that principle that we can prove that He is. In the same manner we must suppose that He is a moral being, or he could not be a designer of the moral qualities he has combined in our nature. This is far from assuming an unlicensed resemblance. As nothing in His nature resembles a tree or a horse (although He designed them), so nothing in His nature resembles covetousness or envy, although He must thoroughly know the nature of those passions. Man knows many passions of which, at the time, he is not in the least susceptible; much more then may we conceive the Deity perceives the moral nature He has contrived, without being Himself in any instance susceptible of the passions of that nature. But although this were quite inconceivable, it is nevertheless demonstrably true. And if true, we ascertain the moral nature as well as the personality of the Creator, without any consideration of the conduct of mankind, or of the government of the world, or any subject involving His attributes. By what attributes that moral nature is distinguished is another question.

SECTION II.—*That the Creator is a Spirit; and of His Unity.*

I SHALL discuss the remaining subjects as briefly as possible, for they bear but indirectly on the evidence of a future state. The truths stated in this enunciation are not, strictly speaking, a part of the proof of the existence of a Supreme Being, yet are they so closely allied to the evidence of His existence, that I have thought it advisable to attach them to that evidence.

First: God is a Spirit. We can conceive Intellect to be material; for it is not entirely certain that the Almighty has not so constructed matter, ponderable and imponderable, under certain unknown laws, as to produce sensation, perception, memory, reflection, reason; but these properties or functions, which do not imply any absolute contradiction in infinite minds, involve an absurdity if ascribed to the Supreme himself, as material properties.

The government of our limbs, and our tools, by the simple act of the will, affords such an admirable illustration of the power of the Deity over matter, that there is no wonder that it led to the error of pursuing the analogy beyond this step,

and ascribing to the Supreme Intellect a b
even the material universe; but after this
point, which is merely an illustration, not a s
litude, all analogy fails. An animal move
limbs through the intervention of a complex st
ture called brain, and the further intervention
system of nerves pervading the whole body, v
out all which an act of his will could not s
finger; but in the material universe, where i
brain of the governing Intellect? where
communicating nerves? It would be an af
to the human understanding to urge that
material brain would require a cause as muc
the brain of a man; for such a narrow
derived from the physiology of such a wor
man, is rejected at once. There is not the
similarity between the universe and an ani
and if there were, we should require a caus
the mind of such an animal, just as necess
as we seek a cause for the existence of a
The pantheist, justly scorning such contra
views, affirms that the universal mind inh
and actuates universal matter as one ess
one substance. This is certainly a more dign
and philosophical view of the case; but it i
empty name; it explains nothing, it leave
just where we began, inquiring for a cause o
phenomena of matter. It is nominally panthe
really atheism. We have been inquiring f
cause of the various indications of design, u

originally independent circumstances, manifested in the various parts of matter, and we found that such phenomena could not have existed through any power or law in matter itself. Now how does the system of the pantheist bear upon this conclusion? Either he tells us that these very phenomena are the intellect, thus making the same things both cause and effect, or that the intellect is in mere inert matter in the mass. If he says that the first explanation precludes the necessity of a cause for the phenomena, because *causa est in se*, then why not call his system atheism? If he says that the cause is in matter, in the mass, apart from any of its phenomena, then is that cause intellectual or not: if it be intellectual, then it is a mode of deism, if not, then is it again pure atheism; and as all we know of matter apart from all its accidents, induces us rationally to conclude that the more it is divested of its properties, the more inert and passive, and utterly incapable of self-movement it is, we deny this mode of atheism called pantheism, and assert that the governing intellect is not matter either in the mass, or in its modes and properties. We do this upon the strength of the preceding evidence for the existence of some creating intellect, and because, such an intellect having been proved to exist, there is a contradiction and absurdity in supposing it were inert matter, or identified in any respect with the very things which require it as a cause of their regularity.*

The idea of spirit is entirely negative: it is not matter, and yet it exists. Its mode of existence, however, is positive, for it thinks. Thought is its essence, its very being;† and this fact shews how false is the subtile and ingenious argument of Hume against a Supreme Intellect, viz., that we have the same right to inquire for a cause of the correspondence of ideas in the Divine Mind producing these inventions, as for their material effects, viz. the actual correspondencies in nature. We deny this. If the essence of spirit be thought, and that spirit infinite, no further inquiry is rational: infinite Intellect solves and accounts for all contrivances. The difference in the two cases is this: matter exhibiting evidently a combination of *different things* in correspondence, we reasonably require a cause for the correspondence of different independent things; but spirit, by the very definition of it, exhibits, as its essence, variety of thought. It is absurd then to inquire for a cause of correspondence of ideas in a substance whose very nature is various thought. It is true we have no evidence that pure spirit is a unity; but we have evidence that the material world is not a unity. We are sure that the combinations of the latter require some cause *ab extra*. In calling that cause spirit, we give a name to something above matter, and wholly distinct from matter. It is not necessary that we should know anything positive of the nature of that cause, but that it contrives. It is sufficient that it is not known to be incumbered with the passive nature and the innate impotency of all material causes. Negative knowledge of a cause that must be immaterial, is, therefore, all the knowledge we require. It is true, I repeat, we cannot prove that that cause possesses in a unity of nature or substance an infinite diversity of ideas or thought; but no one can prove the reverse of this, viz. that that extra-material cause has *not* in a unity of nature an infinite diversity of thought; and this is a sufficient answer to the objections of Hume. As we cannot demonstrate the absurdity of supposing infinite diversity of thought to be the essential property of infinite spirit, but can prove that a harmony of independent parts is not the essential law of matter, we rationally require a cause in the one case, and not in the other. That we cannot conceive this, is nothing to the purpose. There are many facts around us, the cause of which we cannot conceive. We have seen the necessity of an intellect to account for the visible universe, and if that intellect be not a part of, nor the whole of the material universe, it follows then that intellect is extra-material; and we call what is not material, spirit: the name is as good as any other. The cause must be adequate to the effect: we know of no limit to the effects, and therefore call the cause infinite. Infinite spirit is infinite thought; and yet Mr. Hume asks for a cause of that thought. We may truly reply here, *Causa est in se.*

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* The principle of judging philosophical questions by common sense, has been carried too far; but when Spinoza admits that there is a contrivance in his first cause, but asserts that it might not be *contrivance for a definite purpose*, or that his deity constructed the eye, but that it might not be to see with; legs, but not, perhaps, to walk with; and sexes, but, perhaps, not for reproduction:—we utterly scout the hypothesis, and on this simple principle, that it is an outrage upon common sense. It may be apparently founded on very abstruse reasoning, but it is learned nonsense.

† That man thinks always, is a question naturally preceded by another. Is his mind only pure spirit? The answer will determine the point.

It is with the utmost deference, and with a deep sense of the obligations which all who love scientific truth owe to a vast and comprehensive mind, that I object to the assertion of Lord Brougham, that we cannot prove the existence of a Supreme Spirit, unless we premise the human mind to be spirit.

It does not follow, because the human mind may be a material system of exquisite construction, that there can be no kind of intellect which is entirely immaterial. We may freely admit that analogy is in favour of Lord Brougham's position. As we judge that there is contrivance in the works of nature, because of their similitude to the inventions of our own minds, it appears an obvious inference, that our minds are similar in kind, and only differ in degree from the Supreme Contriver; but analogy, however admirable as a guide in the absence of more positive proof, fails before the facts which have been detailed. We are sure, previously to all inquiry as to the precise nature of the human mind—we are sure from the actions of our minds—that a Supreme Intelligence only could have caused the phenomena of nature; and we are sure from the contradictions which the contrary supposition would involve, that this Creator is a Spirit, that is,—not matter: all this we are certain of on grounds quite detached from the consideration of the peculiar nature of the human mind. How, then, is it possible that these truths can depend on our premising that the human mind is immaterial?* Can there be but one kind of mind? And is not the Creator and Upholder of all things sufficiently removed from us in intellect, to warrant an inference that our minds differ from his not in degree only? To assert the necessity of such an alternative as Lord Brougham's, is virtually to say that God could not create a mind *different* from his own. Now, though we must not dare to assign limits to his power, we should be more inclined to say that even He could not create a mind *like* his own in nature, however allied in certain functions as to contrivance, &c.

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* The writer would not imply the least decision on this mysterious question; he is only discussing the inferences from the suppositions.

Objections to the immateriality of the Divine Mind being invalid, we may confidently say, that the Supreme Intellect is what we call Spirit.

Previous to a very few words on the Unity of the Deity, I would remind the reader, that it was the expressed design of this little essay to treat of the subjects contained in it just as they respectively bear upon the principal point of inquiry,—the natural evidence of a future state. A complete treatise upon Natural Theology, in all its branches, is as far removed from the writer's aim as from his abilities; nor can such be wanted after the profound and comprehensive work of Dr. Crombie, although the various branches may receive continued illustration, and arguments virtually the same may be put in a new light. This intention, then, will account for the very short proof which is now offered on a point so mysterious and important—and this proof is that of an enemy:

" All things in the universe (says Hume) are evidently of a piece: every thing is adjusted to every thing, one design prevails throughout, and this uniformity leads the mind to acknowledge *one* author." Unquestionably it does, in conjunction with the metaphysical reasons for this conclusion. The same uniformity would be a very unsafe evidence of the unity of the cause of any human production; for many hands, and even many heads, often unite in producing one connected whole: this being the consequence of human imperfection. But not only is one perfect Intellect a sufficient cause for all the effects we know or can imagine, but there is an absurdity in supposing more than one such being. If it be said, there are two or more deities who act in perfect unison, this is a useless assertion, unsupported by a single particle of evidence. If it be contended that they are of different natures and antagonists, and at the same time of equal power, then no such system as the universe, constructed on one plan, could have been produced. If of unequal power, then the superior Power permitted, if he did not form the present system, and therefore virtually was the cause of it. But it is impossible to conceive that two unequal antagonist powers should have existed from eternity, and both contributed to one plan of creation. The idea is purely fabulous.

The moral world is not a criterion from which can be drawn any inference respecting this point, for we cannot decisively define the scheme of it till it is all known. Supposing man in a state of discipline for another world, evils, as we call them, become the means of that discipline, and would indicate, in that point of view, a single and a benevolent intention, even the most severe of them. The evils in the human mind itself are then the principles, external evils the occasion of this discipline.

We can only draw our inference, then, from physical nature and metaphysical truths, and these unite in bearing the inference that there is one God.

" Of the Unity of the Deity (says Paley) the proof is the *uniformity* of the plan observable in the universe. The universe itself is a system, each part either depending on some other parts, or being connected with other parts by some common law. One principle of gravitation causes a stone to drop towards the earth, and the moon to wheel round it. Nothing is more probable than that the same attracting influence, acting according to the same rule, reaches the fixed stars—it is certain that the same element of light does. The light from a fixed star affects our eyes in the same manner, is refracted and reflected by the same laws as the light of a candle. The heat of the sun, in kind, differs nothing from the heat of a coal fire.

" In our own globe the case is clearer. New countries are continually discovered, but the old laws of nature are always found in them. We never get amongst such original or totally different modes of existence as to indicate that we are come into the province of a different Creator, or under the direction of a different will. The elements act upon one another: electricity operates, the tides rise and fall, the magnetic needle elects its position in one region of the earth and sea as in another. The inspection and comparison of *living forms* add to the argument examples without number. The observation is equally applicable to plants. It is a very striking circumstance, and alone sufficient to prove all which we contend for. If there be subordinate agents, they act under a presiding and controlling will." (Nat. Theol. chap. xxv.)

For a still more striking illustration of this unity of design in the creation, see Mr. Whewell's proof that the Creator of the physical world is the governor of the moral world. (Bridgewater Treatise, book iii. chap. i.)

But, in fact, as far as the great truth I have before spoken of, namely, a future state, is concerned in the question, the absolute unity of the Deity is not an essential article of belief; for, judging of the indications of such a state from the evidences that nature affords us, those evidences are the same in character, whether they proceeded from one sovereign intellect, or more than one; and it is from their character that we deduce the probability of a future life. But there is so much irrationality and absurdity involved in the supposition that this great complex yet harmonious and consistent system was formed by any but one mind,—there is so much metaphysical contradiction in the supposition either of two equal or unequal supreme beings, that we may as confidently say,—There is one God, as that He is a Spirit.

PART II.

PROOF OF A FUTURE STATE
FROM A COMPARISON BETWEEN THE MORAL
AND PHYSICAL WORLDS.

CHAPTER I.

SECTION I.—*The Argument.*

IT is a stupendous and glorious truth, that there is a great Intelligent Moral Being, the Creator and Preserver of the universe; but, stupendous as is this fact, it would be little more than a truth of natural history, had we not reason to hope that he has destined us for another state of existence; for this is certainly not a state of retribution, and if all terminated here, we might with common prudence pass through the short period sufficiently well, without a nearer relation to him than distant veneration for so awful a Being. If we were *sure* that no such event as our revival was involved in the great plan, even the existence of an Intelligent Creator would be little more than a truth of scientific speculation; but of such conclusion no one can possibly be sure, and therefore there is every motive to encourage the inquiry, which may end in doubt, but which may terminate, through natural and supernatural evidence, in full conviction: for the one kind of evidence certainly confirms the other, however low its weight may be esteemed by those who confide exclusively in either.

It is the purport of the following pages to exhibit one simple natural proof of a future state; and in so doing the reader is requested to remember that the authority of Revelation *cannot* be premised or appealed to in attestation of any fact; and, therefore, that such silence cannot impugn its unanswerable evidence.

It being my intention to confine this evidence of the momentous truth of a future life to one kind of proof, and that a *moral* proof, it appears necessary to explain for what reason that species of natural testimony is exclusively adopted.

There is no question but *physical* evidence, or the immediate deductions from such evidence, would be the most satisfactory. No one can rationally maintain that, could we infer with certainty from any physical facts that the human mind is immaterial, any natural proof of its future existence would be so conclusive; for although its immateriality would not necessarily imply its immortality, yet, with a very little moral evidence thrown into the scale, no one would question it. But nothing can be more injudicious than to rest the proof of such a result on an alternative which is questioned. Let the arguments for the immateriality of mind be ever so strong, and the counter evidence ever so weak, or what some may deem wicked, yet while there is any doubt of their validity, it is not a proper basis on which to build such a momentous inference.

It has been very judiciously admitted that this question is not one of the utmost importance to the proof of a future state; and that, if it would be highly satisfactory to us to have such an immediate assurance of immortality, yet that our conclusion does not depend upon the issue. Such is the view which Dr. Crombie takes of this subject, in his masterly discussion of it; while, at the same time, his essay contains the strongest arguments against the immaterialist that will probably ever be produced, several of them as original as they are subtle. If they are not decisive, it is only saying that he has not settled a point which it surpasses human faculties to decide. I have said, that the arguments for the purely spiritual nature of the human mind are not conclusive.

The materialist and immaterialist feel each the difficulties with which his hypothesis is embarrassed.

On the one side, it is a very powerful presumption against the material hypothesis, that no property, mood, or quality in matter, either rude or organized, produces anything *in the least* resembling thought, except what the materialists call the machinery of the brain: whereas other functions of the body, as secretion, &c., bear some resemblance to chemical effects; and it is a still stronger objection to materialism, that when you examine this same cerebral machinery, however complex, yet it is to all appearance inadequate to the infinite variety of mental phenomena which it exhibits. The eye is a most complex and wonderful machine, and if the eye saw, we should be better able to account for the phenomena of vision on material principles; but the eye does not see, for if the attention be abstracted, especially in somnambulism, the images are formed upon the retina in vain. Neither does the mind see *at* the eye, for if any nerve communicating with the body be cut or injured, between the organ of sense and the brain, the use of the organ is intercepted or destroyed: the same is true of the organs of smell, hearing, and taste. The organs do not perceive, nor does the mind perceive *at* the organs, but in the brain through the organs; but when we come to examine this substance where all the nerves of these senses meet, instead of finding any organism apparently corresponding with them, we discern a pulp somewhat varied in colour, and composed of diverse fibres, complex indeed, but not corresponding with the complexity of the external organs. The medullary matter runs into each nerve, and forms its substance; but there is nothing in this substance that indicates the boundless permutations of thought: no provision for infinite variety, no discernible machinery for motion, by which alone we can conceive such infinite permutations to be produced. Where, then, is the adequate machinery of all-excursive mind? How (if material) does it remember (by a thick and nearly homogeneous pulp) a thousand things distinctly, that have for years escaped all notice? That they are physically indented on the brain is impossible: for it imagines a thousand things it never saw, and these of course could not be indented on the brain through the senses. Neither could there be any sensible image to impress abstract ideas. I repeat, there is apparently no machinery for motion, which seems indispensable to the variety of effects. It is true, the matter of thought may be so fine as to resemble the electric matter, and be imponderable and invisible; if so, motion might exist, and yet not be detected. But, then, where is the organization to conduct it, to vary it, to make it act as diversely as thought and passion? Electricity requires ponderable substances to give its action variety. Whence the boundless variety of action on a mass of nearly homogeneous pulp? The alleged cause is not apparently equal to the effects.

On the other side, there appears a still more insurmountable objection against the theory of the immaterialists, viz.: that their supposed immaterial principle is actually built up as the bodily organism, and by it. It does not appear, therefore, how they avoid the inference, that spirit may be modified just as matter is; or that the soul grows or changes just as the brain does, and thus ascribing to spirit those precise gradations which belong only to matter under peculiar circumstances and without any connecting medium, which is perfectly incredible.

Again: They hold that their immaterial principle has no existence in space or place, no locality—is not in the brain, yet it receives the impressions of the optic, auditory, and other nerves, and in return actuates those nerves. But if it be not in the brain, it must have some deputy *there*. Is that deputy material or immaterial (there is no middle substance)? If it be immaterial, it can have no more locality than the spirit itself. If material, then the spirit could just as easily move the brain itself, as this deputy.

If what has been thus briefly stated be founded on truth, then it is evident that the doctrine of the immateriality of the human mind is as incapable of decisive natural proof, as it is probably of confutation: therefore, the physical evidence of a future state derived from an inquiry into the nature or essence of the human mind, must be inconclusive.* That the hypothesis of the materialists, though not so satisfactory as that of their opponents, does not in the least militate against the evidence of that futurity, will be shewn in the sequel.

Having stated why it appears that one popular proof of immortality is unsatisfactory, I will briefly explain why I omitted another. The hope of a future state has often been deduced from the acknowledged benevolence of the Creator. I cannot think that the principle is a solid foundation for the inference; not that the goodness of the Deity can be questioned by any who reflect on the vast preponderance of enjoyment in the animal world, imparted by him, who in thus bestowing almost infinite life and happiness, could only be actuated by his goodness. It is not his goodness, but the conclusion deduced from it, which is questionable. The circumstance which appears to make this principle, as an argument, so doubtful is, that notwithstanding the vast preponderance of animal enjoyment in the mass, individual animals have a very small excess of enjoyment over pain; and as they are innocent creatures, and man a guilty creature, it seems inconsistent that he should build a hope of eternal felicity on that benevolence which has imparted to these innocent beings, in some cases, so small an excess of happiness in the whole of their existence. If the superior fitness of man's moral nature for felicity be urged, we reply, this plea is fully admitted; but this is a conclusion not derived from the benevolence, but the wisdom of the Deity. Considering the Divine benevolence apart from other principles, it affords little foundation for hope that guilty man, who in general enjoys much more in this life than he suffers; who would, at all times of calm deliberation, acknowledge that he was thankful for the boon of this life only: that such a being should, *on this principle,* hope for endless felicity in another, while a harmless and yet suffering animal has but a small excess of enjoyment in his whole short existence. That there is no rational prospect of the revival of other animals in another state, appears from two circumstances: first, they have not that consciousness which is necessary to constitute personal identity, and which, therefore, seems essential to renewal of the *same* existence; and, secondly, because their almost infinite gradation of faculties renders the idea of revival, in the lower classes, almost absurd; and yet we can assign no reason why any grade that feels enjoyment should be excluded, or draw, in that respect, any rational line of distinction between them.

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* The doctrine of the immaterialists which seems to afford most hope of a reconciliation of difficulties, is that of Bishop Berkeley, or the recent modification of it which, without denying matter all mode of existence, holds matter and mind to have a common substratum. Here the chief difficulties are removed, which difficulties ever arise, not from the assumption of such an existence as pure spirit, but from its supposed union with matter. If there be no matter, or if there be a substratum of matter essentially differing from what we conceive by our outward senses, and especially if this be identified with spirit, then there can be none of those contradictions or difficulties which proceed from the union, as commonly apprehended. But then this is a doctrine which has no other evidence than the conjecture of very clever men. It is very acute, ingenious and consistent; but where is the positive proof? There are very many subtle and unanswerable reasons why it *may* be true; there is not one that it *must* be true.

There is also some prospect of solving this great enigma through further anatomical discoveries. I do not mean that physical research can detect spirit, but it may detect the insufficiency of matter to constitute mind.

The writer would rejoice were it proved that he errs in this opinion; but, seeing the subject in this point of view, he has placed the whole of the evidence of a future life, in this volume, on what appears to him the solid foundation, viz.: the wisdom and skill of the Creator exhibited in the material world; and on the utter inconsistency of man's nature with any plan or system terminating in this life.

This rejection of a usual principle of evidence requires somewhat further explanation. There are abstract reasons to be assigned for the justice and goodness of the Almighty, derived from our assurance of the absence of all those motives in him, which naturally cause injustice and cruelty in finite beings. But there are no such proofs of the divine benevolence, as distinguished from goodness. That attribute, as distinguished from goodness, can be inferred only from the actual dealings of the Almighty with his sentient creatures; not with man, of course, for that is the very point in question (and if much enjoyment be bestowed on man here, there would be the less presumption of so much felicity hereafter), but with the inferior animals; and they afford us, in the midst of a vast preponderance of enjoyment in the aggregate, many examples of a small and inconsiderable balance of happiness over severe sufferings. Now this state of things may be very consistent with infinite wisdom, which may see fit to limit the enjoyment in various degrees, and with infinite goodness, which must ever accord with infinite wisdom; but it is not a foundation on which we can be sure that we are right in ascribing infinite benevolence to the Deity, or on which man, who as a guilty creature has no claim on his Maker for future existence, can reasonably look to that attribute for an infinite preponderance of enjoyment. If it be said, that some very young and innocent persons have suffered apparently more than they have enjoyed, from continual illness and peculiarly calamitous circumstances, and that from the benevolence of the Almighty it may be expected that there is a future compensation for them; we should ask, whether it is certain that there are not just such cases in irrational existence, which unquestionably terminates here? And, moreover, such cases would only imply a future compensation of a very limited nature, not the eternal existence of all mankind; for so far from this preponderance of suffering being general among mankind, most men have enjoyed incalculably more than they have suffered: and even when life has been a succession of calamities, yet, having more or less hope of a future and better state, it is probable that the most miserable, upon the whole, would prefer to have existed—to have been raised from a lifeless clod to a rational existence, cheered by this hope to the last. How then can beings so guilty, and yet already so benefited, look for a future on the principle of benevolence? If it be replied, the Almighty has promised it,—that is a plea which can be derived only from Revelation, which is out of the question in the present inquiry. If it be said, the Almighty has intimated it strongly,—we may be thankful that he has; but not by the manifestation of such a kind of benevolence as affords us that hope, but through the nature of our minds, considered in conjunction with the nature of the state in which he has placed us. This affords a solid argument. If the Creator has manifested in all the material world perfect wisdom and skill, as far as we can comprehend perfection, we may be confident that he has made the moral world equally complete with the natural; and if we can clearly discern that it cannot be a skilful and finished design, supposing it to end here, we have the strongest security that analogy can possibly afford (even the security of the whole organic and inorganic world), that the scheme will be completed in another state of existence.

But although we cannot derive any solid argument for a future state from that degree of benevolence in the Creator which is to be distinguished from absolute goodness, yet this in no wise invalidates or weakens any evidence which is deducible from His infinite goodness. It is evident (if the limited enjoyment and great sufferings of individual animals were the sole proof) that there is a distinction between the attributes of goodness and benevolence, and that the former may be perfect, and yet not involve the infinitude of the latter: while infinite goodness implies all the benevolence which is consistent with infinite wisdom. And therefore, although the principle of the following proof of a future state is based upon the wisdom displayed by the Creator in the physical world, this does not preclude an appeal to His infinite goodness in such parts of the argument as involve the exercise of that attribute, rather than His consummate skill.

Having stated that the sole argument in this inquiry will be moral, I will venture to remind the reader of the trite fact, that moral argument cannot in its very nature admit of the decisive demonstration of mathematical and physical truths. It is the result of evidence which is not only abstract, but more or less indefinite. A mathematical position is discerned to be entirely true or utterly false; a physical truth is wholly or partly proved by the evidence of the senses, and so far is quite certain; but a moral truth respects ideas more or less indefinite: therefore although it may be proved as effectually as the nature of the evidence admits, yet we cannot feel the same strong conviction in the conclusion.

We are as certain when we have proved the three angles of a triangle equal to two right angles, that they are so, as of our existence. We are also certain that there must be an intelligent Creator, because we have sensible evidence that there are independencies in the physical world, which He only could have made to correspond, although this degree of certainty is not quite so great, for it depends in part upon abstract argument. But for any truth entirely moral, for instance that man is in a state of moral discipline, we can only obtain a vast balance of probabilities: the nature of the case admits only of such kind of evidence. Although we have full proof, therefore, if we have all that the nature of the subject admits, yet the conviction cannot be so decisive. In the undoubted position that human opinion is favourable to virtue, all the terms are abstract and indefinite, and the evidence is open to controversy; for the position may be controverted thus: It may be said, it is prejudice, arising from self-interest, that gives to virtue this credit; and, therefore, that it might not be the real opinion of mankind that virtue was superior to vice, if this self-interest could be entirely removed. Again: it may be contended that there is no such virtue as is here meant, for a vast body of Christians do actually hold that there is no virtue but in Christian graces; that all the heathen or mere moral virtues are splendid sins. Again: it may be said that there are thousands in all ages who really have a higher opinion of many vices than of the opposite virtues, really preferring pride to humility, what is called spirit to meekness, retaliation to forgiveness. Now, in proving that human opinion is favourable to virtue, we have to shew that the above are either errors or exceptions, that is, the proof is a balance of evidence only. Yet after all this liability to be controverted, and the many real exceptions, no one doubts the fact: so that moral truths, though but a balance of evidence, may be sufficiently convincing.

On a balance of probabilities only, we often believe and act in the common affairs of life, without the least hesitation or doubt; and are as little liable to error where the preponderance of evidence is vastly great, as in truths verified by the senses. Preponderance of evidence sounds like an indefinite and insecure basis for a conclusion; but not only may the balance of proofs be so great numerically on the one side, as to make the contrary evidence, as it were, evanescent; but the proof on the one side may be of a nature essentially stronger than on the other; for if in a moral argument all general rules are *for it*, but *against it* are only exceptions to those rules, this is an essential difference in the evidence, which would make an essential preponderance on a former side. If in the question whether this life be a state of discipline or probation, the arguments *for* such a state are derived from *all* the faculties of man and *all* the phenomena of society, and the absence of any other conceivable cause for the existence of such a state as the present; and the evidence *against* such a state, solely consists in such physical exceptions as the death of infants and the phenomena of idiotcy,—then, although it may be called a balance of probabilities, yet it is not merely a balance of the same arguments, but of proof different in nature, and, therefore, the preponderance may be incalculably stronger than could be derived from a mere balance of arguments of the same kind.

Whether it be so great a preponderance in this case as I have intimated, it will be the purport of future pages to shew; but it is certain that moral evidence may admit of such a vast preponderance of proof as to be equal in the eye of reason to physical demonstration, although it cannot make the same strong impression on the mind.

The moral arguments usually advanced in proof of a future state, are principally founded on the wisdom and on the benevolence of the Deity. For the reasons assigned, it is my intention to confine the proof to the former of these principles—the *wisdom or skill* of the Creator; because one proof, if really a proof, is sufficient, and is always more impressive when it stands alone.

This proof is founded upon the contrast between the inconsistency of the moral world, if the plan terminate here, and the consistency of the physical world. There is no known instance of incongruity in any *plan* or *provision* in the material system: there are what we call defects and blemishes, that is, exceptions, which will be described hereafter; but there is no failure of adaptation of means to any known end; no defect in the system itself: on the contrary, all is, as far as we can discern, skilful, congruous, and complete. But if the moral plan end with the death of man, it is, as a plan, inconsistent and abortive; and this affords the strongest presumption that analogy can supply, that it does not so terminate. It is evident that in this argument there are two points to be proved: first, that the physical world is consummately skilful as a system; secondly, that there is no congruity or completeness to the moral system in this life.

For the proof of the skill and consistency of the physical world, I shall chiefly appeal to the reader's knowledge of the leading facts in the different departments of nature, organic and inorganic, now so universally known by the noble publications that have recently obtained so vast a circulation. But I shall also briefly answer most of the apparent objections to the material world, as a system; a system not merely negatively good, but, with a few anomalies or apparent exceptions, of consummate perfection.

The second point to be established is, that there is no consistency in the moral scheme if it terminate here.

By the moral world, I mean that part of human nature by which man is distinguished from the irrational animals, not merely as an accountable being, but as having faculties, passions, affections, tastes, and other characteristics peculiar to humanity: all these I include under the term the moral world.

Now these faculties differ from the mere animal mind, not in degree, but essentially. There is a vast hiatus in nature between the low faculty of reason, as exhibited in beasts, and the voluntary association of ideas, the moral responsibility, and the affections, hopes, and fears of mankind. These are not merely higher grades of the same faculties possessed by the former; they are not, like the appetites and passions common to both, merely modified by the superior nature of man, but they are entirely distinct faculties, marking a different order of beings. Therefore, although there is a gradation from the one class to the other in their animal nature, in the bodily frame, and even in part of the mental constitution, yet this gradation is limited entirely to a certain point in the mental phenomena: beyond that the similitude abruptly and entirely ceases; a new nature begins. Notwithstanding these connexions, then, man is not necessarily more allied to the beasts than he is to what we conceive an angel to be; not so nearly allied, because moral responsibility and moral feelings, and especially the hopes and fears of a future, which hopes and fears we unquestionably have, whether they lead to realities or not, remove us further from mere appetites and their allied passions, than a separate habitation only divides us from superior beings. If we be creatures under a state of moral discipline (which we must neither affirm nor deny, but) which is admitted to be strongly probable, our existence on a globe surrounded with these perishing creatures, and our animal and mental connexion with them, are perfectly accounted for, without involving any similarity of moral nature, or of final destination, because their evident relations to us, their subserviency to our convenience, require such points of temporary similarity. But whether these conjectures are true or not, there is a vast chasm in nature between man and all other animals. The question now before us is, what that essential difference indicates, or, in other words, what was the ultimate purpose of the Creator in placing beings endowed with such a moral nature, in the present state? What is his design in giving us faculties so distinct from those possessed by the beasts which perish? Now we assert, that He, whose physical plans are all so consummately skilful, has given to mankind faculties of various kinds, utterly inconsistent with any plan terminating with his natural life; or, in other words, that the moral scheme, so limited, must contradict the analogy afforded by all the other works of the same Great Artist, which we can comprehend.

Therefore the incongruity and abortive nature of this moral scheme, if it end here, is the point to be demonstrated; and the exquisite skill of the physical world is the principle upon which the demonstration rests.

Some instances of this exquisite skill have been described in Part First; and it is requested they may be considered as common to this inquiry also. But, happily, so great has been the spread of such knowledge of late years, especially through the celebrated Bridgewater Treatises, that every reader must have in his mind a rich store of examples of this class, or a deep impression at least of the consummate wisdom exhibited in the structure and adaptations of the organic and inorganic departments. We have, then, a general principle to argue from, solid and safe. We have a standard of comparison whereby to ascertain the right interpretation of the moral system, which cannot deceive us. According to that principle any explanation of it that represents it as an incongruous scheme, must be erroneous. But there are, I have said, apparent exceptions to the skill of the physical scheme, which we shall first examine: I say apparent, for nothing is more equivocal than the appearances which we have termed exceptions. The increase of science has very recently made it evident that a whole host of phenomena, formerly considered as blemishes in the fair creation, are amongst its most salutary and skilful provisions. But before I point out the fallacy of some of these supposed exceptions, it is necessary to observe that we have not to premise the *infinitude* either of the Creator's skill or of his power in the question of a future state: not his infinite skill, because far more divine skill is manifested and visible to our senses, and clearly apprehended by our understandings, than is necessary to devise a consistent plan or system for such creatures as mankind; and far more power than is necessary to complete it.*

There is *apparently* a moral system begun in this world, a system of moral discipline. Now supposing this to be the purport of our existence here, there is no more skill required to carry it on, or terminate it by some award or other, some issue in another state, than is manifested in the nice adaptation of our various faculties to sensible objects, or than is manifest in other well known parts of mental phenomena; and as to the power of completing such a scheme, there can be no more required than is manifested in our creation. He that can create, can certainly renew. Even if we be beings altogether material, we have only to conceive the same organism restored anywhere in space, and it would produce personal identity and consciousness, without the transfer of one material particle; for the same material construction would produce the same mental being. But if to personal identity some identity of substance be judged necessary, it is conceivable that a minute imperishable germ may just as easily become the embryo of a more spiritualized body, as a mere particle (we know not how minute) is of the natural body.

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* These considerations preclude the necessity of proving the attributes of the Creator, as was intimated in the preface, which greatly simplifies the proof we are establishing.

It is not a subject, therefore, which involves any impossibilities, or an approach to impossibility. If, then, there be no question as to the possibility of the consummation we hope for, we have only to ascertain that the Creator has the will to give us a future existence, and the question is solved. And how are we, on natural principles, to ascertain this? By analogy:—"Analogy, man's surest guide below." By observing the exquisite completion of His physical contrivances; by observing that, when there are apparent blemishes, there are physical or moral causes to be assigned for such apparent exceptions; and then very naturally inferring that He who has produced no work, however complex and difficult, in which (these exceptions rightly considered) we can detect error or imperfection, has unquestionably made the moral a system equally congruous; and, therefore, if it be incongruous and defective in this state, it will be completed hereafter.

I shall first endeavour to shew the fallacy of some of the *apparent* objections to the perfection of the physical world, as the most practicable plan of evincing the consummate skill indicated in its construction.

SECTION II.—*The Consummate Skill of the Material System.*

IN the first place, it is to be remembered, that of these supposed physical exceptions or defects, we have only to examine those that are *purely physical*. The moral imperfections, if there be any, appertain not to the criterion, but the conclusion to be proved. This is a very material distinction, and excludes all those evils (for we question not the existence of evils) which may be alleged to impugn the justice or the benevolence of the Creator, as venomous creatures, the system of prey, &c. Whether true or false accusations, they come not under the present subject.

The proper objects of this inquiry are, apparent blemishes in the organic and inorganic, that is, the physical contrivances only. Evils involving a moral question require a moral solution.

Secondly: We must also except from these physical defects all human diseases and premature deaths: these things are evidently connected with the moral plan, and we need not premise the nature of that plan, to be convinced that they have such a connection. Let the reader reflect upon the immense difference there would be in the moral world, whatever be its nature or design, whether it end here or not, if there were no diseases and no premature death, and he will conclude necessarily, that these apparent defects in the physical structure of man were intended to answer some moral end, especially as the diseases and premature natural deaths of animals, except when injured by domestication, are so very rare.

And this exemption in other animals also accounts for a vast mass of human evils on another principle. They are, in a great plurality of instances, the effects of intemperance or imprudences, or of some artificial or unhealthy habits of the individual or his progenitors, and as, such, must not be brought as instances of the defects of man's physical structure, in its purely natural or healthy state. On both principles, then, we exclude this class of defects from the consideration of the integrity of the physical system.

Thirdly: Some of the alleged defects are the violences, irregularities, and uninhabitable regions on the surface of the earth, as volcanoes, floods, earthquakes, tornadoes, deserts of sand, rock or ice, swamps, mosquitoes, miasmata, and other causes of destroying life or limiting habitation. Now there are two very material considerations in estimating the real character of these evils. One is admirably stated by Paley: "If (he observes) there be room enough on the fertile and habitable part of the globe to accommodate all its inhabitants for indefinite ages, these sterile or unhealthy regions are to be considered as so much space added to our globe, which would otherwise have been smaller;" but who, as he observes, ever thinks of calling it a defect that the globe is too large? Should it be suggested that, the rate of population continuing, there would be a time when the habitable regions are too small, the objector does not consider that the foundations of vast increase of land are accumulating by means of the coral insect; and that, ere the world be overcharged with inhabitants, there may be another great change essentially different from those which have hitherto occurred. But this is not the only solution of these evils.

It is well known, that some of these miscalled evils, as volcanoes and earthquakes, and rugged mountains, have been, or are, amongst the most effectual causes of the blessings which we enjoy. Volcanic power and earthquake were the agents in upheaving the strata of the earth, and rendering the riches in its bowels, as coal, iron, and other minerals, accessible to man; and, also, of elevating those sterile mountains of which he sometimes complains, but which are the cause of all fertility. Without mountains to attract and arrest the clouds, and form the heads of rivers and lakes, the rain would fall chiefly into the sea; and the earth, instead of a fruitful field, would be a desolate wilderness. Add to the preceding, the following still more material consideration.

The character of the structure of the earth, and its alleged defects, cannot be properly estimated without considering the character of the creatures for which it was provided as an habitation. Now, without taking for granted that explanation which would at once solve all these difficulties, (viz., that this is a state of moral discipline) merely judging by what man actually *is*, we may perceive an admirable adaptation of the earth to his nature and wants. His sanity of body and mind require strong inducements to continual exertion, and many of these evils are amongst the principal stimulating causes to industry: he drains swamps, manures sterile soil, repairs the violences of wind and flood, and migrates when he cannot repair. He is so constituted as to die naturally at all ages, from a day to a hundred years: the deaths, then, proceeding from the violences of the globe, are in perfect accord with his natural constitution. If we call them physical defects, we must arraign the precarious nature of life on the same principle, which is a moral question. The truth is, that very paradise we dwell upon with delight, as our first parents' abode, would be a curse to man *as he is*. We cannot have a more formidable idea of a moral pandemonium than this earth would have been to man *as he is*, if it had been a natural elysium, supplying all our wants by spontaneous fertility, delicious temperature, freedom from all dangers and annoyances, and thus depriving him of all those most salutary motives to occupation of body and mind, which counteract the host of moral evils which indolence and luxury inevitably produce. And this consideration may lead us to modify the trite sentiment, that this globe bears the stamp of a cursed and a ruined world. If it be nicely adapted to the nature and probation of the creatures who are placed on it, these evils are as truly and as much an adaptation of Divine wisdom, as an infliction of Divine wrath.

The great mass of these miscalled evils are peculiarly adapted to the moral wants of man. The possession of every want, without the least labour to obtain it, and the enjoyment of every pleasure, without the alloy of pain and danger, might be a blissful state to a pure and perfect creature; but to such a being as man now is, it is scarcely possible to conceive one more hopeless. It would be a state of sin and misery, without the means of amendment, or the prospect of futurity. What an inconsiderate sentiment is the distrust of a wise Creator, because of the miseries of life! If the present difficulties, and sufferings, and fears, are so often braved by mankind, what would be the consequence of a greater exemption? If it be a familiar and indisputable truth, that the natural means of moral improvement[*] is suffering, or the apprehension of suffering; and that even these remedies are often ineffectual, what hope of amendment could exist, were those removed? And, again, if the means of health and cheerfulness be activity of body and mind, how can these blessings be separated from the dangers and difficulties miscalled evils, which alone can stimulate man to the constant exertion of all his faculties?

Fourthly: Another class of supposed blemishes in the physical world are pure assumptions of ignorance or vanity. It has been asserted by a certain eminent sceptic, that he could have contrived that the moon, instead of giving that small and interrupted portion of light which occurs in the course of a year, should have appeared always at the full; and thus have unequivocally indicated that she was intended for our convenience; and there is no doubt but his scheme would have effected this end.

But the objection implies two positions, neither of which he had a right to assume. First, that it was proper and beneficial that there should be no dark nights. Now, if that darkness may have been the means of as much good as evil; if, in our cities and towns, the industry and ingenuity of man have been called forth to make an artificial day, and if, in the country, our weary labourers sleep regardless of the moon; if travellers carry lights with them, and voyagers their compasses; if we actually have the moon's light during far the greater part of her circuit,—where is the just plea for such an objection? Before what is called the inconvenience of partial darkness is arraigned, the objector should be sure it was not intended. But, then, says the objector, we should have had irresistible evidence that the moon was created on purpose to enlighten the earth; implying, of course, that her attendance may now be ascribed to accidental circumstances. Accidental! That she is not so near or so large as to deluge the hemisphere with her attraction every tide; or that she is not so small as to produce no tide at all, and so leave the sea subject to corruption, and commerce without its most salutary provision. Accident! That she exhibits that deep glowing effulgency which, when rising over the flickering waters in a calm night, is so impressive that some sensitive minds cannot see it without tears; and that this is so modified as to preserve most of the benefit, and yet afford that which is ever pleasing to man, viz. a beautiful and modified variety.

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[*] I here speak of moral improvement as a beneficial end in itself, and for this life. I am not taking any ulterior end for granted.

But another class of objections may be as briefly dismissed: these are apparent natural blemishes in organized creatures, or unaccountable superfluities; as the double bill of the buceros, the immense size of that of the toucan; the rudimentary parts spoken of in the former division of this work, as the embryos of feet in serpents, teeth of parrots, whales, &c. To a hundred such instances, if they could be produced, a general answer is amply sufficient to remove them, as objections to the power and skill of the physical system.

The utmost that is alleged is, that these things are useless, or rather that we have not yet discovered their use: it is not asserted that they are injurious. Now, let the objector go to the British Museum, or any other depository of organic forms, and, premising he has the requisite information, let him reflect on the quantum of exquisite contrivances, the consummate skill lavished on the host of life for necessity, enjoyment, and beauty; let him understand and duly consider the surprising ingenuity of the structure in one single individual, even among the lowest genera; and then ask himself if a few such obvious blemishes (if blemishes) as a child carving a stick would avoid, could have occurred in such a system, for want of skill or power in the Creator? His reflection will naturally be, that either some use is intended, which, like the curved tusks of the babaroussa,* will be discovered when the animal is better known; or the Creator has given the apparent superfluity, because He is not circumscribed by our notions of propriety. But whatever be the supposition, it will be palpably evident that He cannot have contrived the most complex and wonderful mechanisms, and overlooked or erred in the most obvious. None of these objections, then, afford any legitimate evidence that the great plan is not one of superlative wisdom.

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* The curved tusks defend this animal's face from the thick underwood in which he resides.

Having made these deductions from what may be erroneously deemed defects in the physical system, it follows that we state what are those phenomena which, if defects at all, are legitimate defects of that system. These are malformations or monsters, abortive births, &c.

Here then, if any, are our only legitimate exceptions to the perfection of one vast harmonious system, including in its millions of ramifications system within system, from the most distant star to the minutest particle of matter; containing miracle upon miracle; calculations so intricate and deep, that a Newton cannot even conceive them; adaptations so exquisite, so unthought of, that the discovery calls forth exclamations of wonder and praise; works which strike the eye, the ear, the heart of man with profound admiration, and have convinced mankind that the Creator of them is omnipotent and omniscient.

But notwithstanding the apparent insignificancy of these exceptions, as the skilfulness of the physical system is our criterion in judging of the nature of the moral world, they must not be disregarded as if they were not worth consideration : on the contrary, it is necessary to examine their nature and inference on the great question before us. And in such an inquiry it is material that we adopt a proper method of investigation. It appears to the writer, that the proper rule in estimating these alleged defects in the physical world, is to separate the plan, system, or design of any kind, from the casual varieties and irregularities to which it is subject. Take the design first in its integrity, its general condition. Is it consistent and skilful? If so in fact, the point is almost decided : these are then, as we have stated, exceptions from the plan, not errors in the plan. But when we are estimating the ingenuity of some human mechanism, or the skill of the artist, we of course judge of it not when accident has altered and marred the original design, but when it is entire. Will it be said that the liability to such variations and irregularities is the defect? We reply, they all spring from one cause, viz. the clashing of general laws. Is it contended that it is a defect in the Creator's power and skill, that this interference was not avoided? Let the reader remember, that a most abstruse, philosophical, and possibly a *moral question*, is involved in the answer; and till it is solved, we must not decide that this use of general laws, or their mutual, though rare opposition, is to be attributed to a want of power or skill in the Creator. This remark includes the cases of monsters, idiots, and all organic deformities. Therefore we are not authorised to say that these evils are positively defects; that is, if there be any reason assigned for the use of general laws, and they are necessary consequences of such use, then they are not defects.

But of what can it be alleged that they are defects? Defects of *system*, defects of *law*, or *rule?* Are they failures of *skill* in planning, or of *power* in executing, by the best means, any given end? Certainly not. They are not defects in law or system, but merely defects produced by the clashing of laws, each the most wise and skilful. But the blemish of an exception is a very different kind of defect from that of a failure in a plan or system itself.

Take any plan exhibited in the physical world, for instance, the nutritive and reproductive system in the animal frame; and as a means to an end no one has ever questioned but they are exquisitely adapted, and exhibit what we may call perfection of plan. The occasional exceptions in these processes, from the clashing with one another, or with other processes (each in itself equally skilful), bears a very different inference, therefore, from a defect in the plan or execution in the system itself. If such were defects, still they would afford no argument against the perfection of the Creator's power and skill in ordaining most wise and perfect plans. And as the very subject of the present inquiry is a *plan*, viz. the moral system, we have the analogy of *all His plans* in favour of the excellence and consequent completion of that system. Were the moral system but as skilful and perfect as any single processs in the human frame, we should have ample security for a most wise and consistent scheme; and, therefore, if it cannot be consistently terminated here, we very rationally infer that it will be completed hereafter. But, lastly, there is great reason to believe (although we must not assume it as certain), that these blemishes (especially in the human subject) have a moral cause and a moral inference.

Such are the principal of the supposed exceptions to the skill of the physical system: few, if all were admitted; most of that few quite delusive, nay, positive evidences of congruity; the rest, at furthest, equivocal. From these few and equivocal instances of a supposed want of skill in the material world, I would gladly be able to produce a brief view of the vast physical scheme itself, and a solution of the most striking adaptations of its most complex and subtile machinery. No one can contemplate the general scheme without a conviction, that whatever might be the cause of the few irregularities, it is utterly impossible to be want of skill or power. Every minute part is exhibited in its integrity and perfection a thousand million times for once that it is subject to irregularity; and the whole is one harmonious consistent system, especially adapted to the moral creatures that are connected with it. But for such descriptions, I must refer the reader to the various works I have before mentioned, and especially to the posthumous work of Dr. Macculloch on the Attributes of the Deity, and Dr. Southwood Smith's Philosophy of Health. And when his faculties have been confounded by instances of calculations that no human mind can pursue, and instances of contrivance that have apparently overcome physical impossibilities, and of power that extends from the smallest molecule of blood in an invisible monas to the orbit of the starry heavens, and has *connected them both in one system;* when he has dwelt on these wonders, he will not question the power or skill of the Creator, because an earthquake overturns a city, or a field of corn is blighted, or a kitten is born with five legs.

I think it right, however, to detail one or two examples of the works of the Almighty, just to remind the reader of that skill which is clearly manifest wherever we can understand the end throughout all His operations. And I shall cite the instance of the very simple substance, *water*, a compound of two simple gases, borrowing largely from Dr. Macculloch's most striking description of its nature and uses.

"Its singular oppositions of character (he says) are peculiarly striking. Yielding to every impulse, unresisting even to light, it becomes the irresistible force before which the ocean promontory crumbles to dust, and the rocky mountain is levelled with the plain below. Of an apparent absolute neutrality, without taste, without smell, a powerless nothingness, that deceptive innocence is the solvent of all things; reducing the thousand solids of the earth to its own form. Again: existing at one moment, at the next it is gone, as it were annihilated. To him who knows not its nature it has ceased to be. It is a lake, and in a short time it is nothing; again, it is that lake, and it is a solid rock. It is a rock crystal at one period, and then it is invisible; while the agent of its invisibility (heat) transports it beyond the earth, that rock is air. Thus sailing the heavens, it descends again to renew the same ceaseless round, for ever roaming about the earth and the vacant regions of space, wandering between the earth below in the performance of its endless duties; though appearing at rest, resting nowhere. This, and more, is water, powerful in its weakness, and powerful in its strength, a union of feebleness and force, of incessant activity and apparent tranquillity, of nullity and ubiquity, of insignificance and power, a miracle of creation."

Had it been the simple substance which it was once thought, all its mechanical uses would have still remained; but the living world would not have existed to profit by them, so eternally true is it that the more we study the works of the Creator, the more we learn of wisdom and skill. The highway of navigation, the atmosphere of fishes, a moving force for the use of man, the distributor of soil, and the agent in creating new lands; it might also have been the source of the clouds and rain, the universal purifier, and much more, under those properties which it was once thought alone to possess. But it would not have been the food of plants and thence of animals also. It would not have been the great provision for renovating the atmosphere, and it would not have formed part of that soil which its mechanical force distributes; as without the properties which it really possesses as a compound, to those ends it would have been useless, and chemistry would have been without its right hand. All these ends, and more, did the Creator of water intend to be derived from it, and He has created it accordingly, a compound and decomposible. And be its composition truly known or not, be oxygen and hydrogen simple elements, or otherwise, it is indifferent for the present purposes. Though our philosophy should be imperfect, the conclusions of natural theology will remain true.

But let us examine more minutely the phenomena of rain thus admirably described by the same writer. "As water can dissolve air, and hold it in solution, so, when the proportions are reversed, water is dissolved in air, and becomes a constituent part of the atmosphere. This forms the basis of clouds and rain. The water is united (by heat) to the air, and they form a chemical compound, possessing the mechanical properties of the pure atmosphere. It has disappeared. It has been placed in a new position, where it is still ready for its ordinary uses, and is also ready to be transported wherever it is wanted. Being thus assimilated to air, by evaporation, it is made visible in the form of cloud, or mist, by condensation. It is then transported; it returns to the earth, unchanged, to where it was deficient, from the place where it was superfluous. And thus does it reach even the mountain summit which it could have attained in no other manner."

"*It was great problem to render a substance lighter than that which was a thousand times lighter than itself, yet without affecting any of its properties.* Who is there, knowing the power of gravity, and not knowing this, that would have believed it possible? The stores of water were to be transported in masses to the places where they were required. The Creator collects it in masses, and He causes these to float in the atmosphere, *so much lighter than water*, that His winds may lead them wheresoever they are wanted. Does any one consider the enormous weights which are supported in this marvellous manner; the seas of water which are thus suspended, and carried along like a feather before the breeze? The torrents which fall from them will tell him what these weights are. It is a whole lake which descends from the heavens in an instant, a lake which an hour before was, a hundred miles away, lighter than the thistle's down. 'He bindeth up the waters in his thick clouds, and the cloud is not rent under them.'

"The cloud was formed from dissolved water. Why does it not immediately combine again? Why not always, as it does sometimes? It is the feeblest of substances and of structures, yet it is not injured by the most violent winds. The gale which tears in an instant the stout canvass, the hurricane which whirls a forest into the air, *carry before them the tender cloud unhurt;* and though they may change the form, they do not destroy what they might have torn in pieces *and dispersed in atoms.* What is this force of adhesion—the power of evading violence *in that which is without strength and without weight?* It may be electricity, but it is still the power and the hand of the Creator. It is one of the miracles of nature."

"The cloud falls in rain; the cause may still be electricity, but we are as ignorant as before. All is marvellous, and all is unintelligible. If the winds transport the clouds as they list, so does the rain fall as it chooses, and no one shall say why."

"It is above us and around us, yet it will not descend. It is solicited, but it passes by. What, who is the agent in all this? It is not chance; for even amidst apparent caprice the results are too certain, and the good effects too steady."

"With great irregularity and the most apparently casual occurrence, the average quantity of rain, in a given place, in each year, is nearly the same. How is the whole chain conducted, and all the results ruled, when all the agents, the clouds, and the wind, the heat that evaporates, and the cold that condenses, are all irregular and capricious agents, under no rule of which we have any conception?"

"The Creator (continues Dr. Macculloch) has entrusted still more to the clouds, ever attaining many useful ends by one contrivance. They are a veil which he draws between the sun and the earth; thus is vegetation fostered, and the scorching of the tender plants prevented, while their growth is much promoted by the check thus given to pernicious evaporation; and the heat of the earth preserved under a similar check to the power of radiation."

Again: "The bountiful Father of all has rendered *beautiful* that which was useful and necessary. He has done this throughout all creation. The landscape of the sky (if I may use such a term) forms no small portion of the beauties of external nature. In itself it is a picture, and it is indispensable to the picture beneath. Where all is ever the same, the restless and various sky is an ever shifting, and affords an ever new picture, a perpetually changing landscape."

"We need not travel to seek fresh ones, for they are brought to us hourly, and never yet were two alike. Nor are this variety, this beauty, limited to the sky alone; for to the clouds, their lights and shadows, and colours, and forms, and motions, has it been committed to change the face of the terrestrial landscape itself, and thus to produce here also those incessant variations which they cause in the heavens."

"The clouds and the ocean, these are the sufficient landscape; in motion or at rest they are pictures which never weary, as they are pictures to which there are no bounds; and it is to them we owe the life and spirit of the unmoving inanimate landscape of the earth!"—(Dr. Macculloch's Attributes, chap. xxxii.)

I must here repeat a few facts in the evidence of Part I. to add to the natural wonders of this substance. It is an anomaly in nature, and by that anomaly a very important evil is avoided. All other substances contract by cold and expand by heat; water does indeed, like the rest, contract by cold, but, unlike any other, at a certain point of cold it begins to expand; for ice takes up more space, and, consequently, is lighter than precisely the same bulk of water. The beneficial consequence of this anomaly is, that it always floats above the water, and is melted instead of sinking to the bottom, as it would if it continued to contract with the increase of cold, and there accumulate winter after winter. But whence this anomaly? The skill of the Contriver: it is contingent on no known physical cause.

But there is another beautiful provision in the nature of this substance. At a certain degree of heat, snow or ice dissolves. But this effect is not obtained suddenly: the temperature cannot be raised to the point of solution till the whole mass is raised to the same degree of heat, or the heat is said to be *latent*—till the whole mass is imbued. If it were not for this peculiar property, snow would melt all at once, and deluge the ground. Neither is this property contingent on any known secondary cause.

Again: When water has attained a certain degree of heat, the temperature cannot be raised, as it is in solids, by more heat, by which provision there is a limit to evaporation; otherwise, a mass of water, under an increased temperature, would all fly off in steam. How is this? Merely because the Creator willed it.

I am now principally speaking of water as a work of consummate skill, not as a gift of beneficence; therefore I will not enter upon its important uses as an ocean, a river, a canal, a moving force. The subject is inexhaustible; so also are its geological uses, so are its animal, so are its vegetable.

Having looked at the more general features of this wonderful substance, let us observe some of its phenomena in detail.

By what admirable provision is this simple compound capable of appearing in so many different forms, hoar-frost, ice, snow, hail, rain, cloud, mist, fog, haze, steam, air, most of them having distinct properties and effects? Why does not the condensation of the cloud always, or sometimes, produce the liquefaction of the whole in a mass, instead of the delightful and salutary form of drops, fertilizing without crushing the most tender flower? One answer is obvious. As things are constituted, it could not be otherwise: there are secondary causes for this phenomena. True; but what, except Supreme Wisdom and Power, could have devised and effected such a result from a union of secondary causes? It seems obvious from its familiarity; but so do all the countless provisions of nature. Who (without experience) would have anticipated just the same issue from a confused and blended vapour, as from a solid sky drilled with holes as mechanically as a watering-pot?

Again: What could be more removed from human anticipation than the form of water called snow? How came the compound of two gases to be susceptible of a middle condition between fluid and solid, and so different from both? The secondary causes only place the question a step backward. All but the atheist must refer *all* to the contriving skill of the Omniscient Creator.

How admirable a contrivance, then, is this winter covering of the earth! What striking beauty in its separate crystals, in its light downy flakes! But who can express the exquisite purity and brilliancy of the driven snow of the night, when sparkling under the beams of the morning sun? What an astonishing novelty would it be to a mature mind, ignorant of this phenomenon, especially when informed that it was nothing but water! And it is as useful as beautiful: it nourishes the tender herb, and fertilizes the soil.

But the scene is changed. All nature is again white and glistering; but it is with ice, not snow. The hedges, trees, all vegetation is apparently glass, fine frosted crystal. This is, indeed, a scene of enchantment even to the eye which has seen it a hundred times: no use can make this vision beheld but with admiration. But what is this? Only water.

In summer it assumes another form, a soft, white, well-defined mist, called fog. Dr. Macculloch has spoken of the variety given to the landscape by the clouds sailing over it; the change is nearly as remarkable, from the cloud that rests upon it: the metamorphosis is sometimes entire. The writer once witnessed a beautiful illusion of this nature from Gog Magog Hills, near Cambridge. The most uninteresting scenery in England (for absolute fen has a character) was converted by a fog, spread over the surface of the earth, into one of the most delightful scenes that can be conceived. The whole vale appeared like a soft lake; but, at a certain height, the fog abruptly terminated, and Cambridge itself, and every surrounding village and eminence, appeared like rich islands scattered in this tranquil sea. This was merely another form of water. To another mode of this substance the landscape is indebted for all the beauty of what is called a warm haze. How hard and harsh would every object come upon the eye but for this sweet veil, distinguishing distances, and perpetually varying them, so as to give the very same view from the same window a new aspect every day! all the effect of water only. But its forms are almost infinite: view it on that same window, in the depth of winter, crystallized in the regular figures of the mineral kingdom, and in another pane assuming all the rich and luxuriant freedom of vegetable foliage, imitating a forest of palms and ferns. But its most capricious varieties are seen in the sky. The nimbus bears little resemblance to the scirrous or cumulous cloud: at one portion of the horizon it is seen in high rolled rocky masses, like the rugged Alps softened by distance, in all the glory of light and shade; mountains upon mountains stupendously lofty, yet apparently so soft, that you might fall from one awful steep to another, and be caught on promontories of eider down. Near the Zenith, it is often seen in light streaks and bars, like the plumage of the woodcock, and as thin as gauze: at another time, it is a uniform India ink suffusion over the whole sky: at another, it assumes the form of detached billows: at another, it flies like foam across the disk of the moon: at another, it appears in every variety of irregular shape that can be conceived. But when pervaded by the setting sun, it displays the colours that we conceive of heaven; floods of scarlet, green, and golden glory carry the thoughts beyond this sublunary world; but the sun sinks, and the vision is gone. It was only water.

But what is the nature of this Proteus-like substance, which is ice, snow, hail, frost, rain, mist, fog, cloud, haze, steam, air, and which throws over the earth and the sky its animated varieties, changing the scene like enchantment; which is a solid rock, a running stream, a cloud, a gas; which is the solvent of all things, which formed the very structure of the earth, which is the food of vegetables and animals, which shines with such resplendent colours, which assumes such beautiful varieties of shape and form? It is a mixture of two invisible substances called gases, viz., hydrogen and oxygen: *that is all.*

Now, the Being who could give to two invisible simple substances such infinite diversity of forms and properties, and such mighty and salutary powers and uses, wields the wand of an omnipotent enchanter, and can do any thing and every thing. It is all miracle, though under strict physical rules. But, unlike the imaginary enchanter's work, it is all substantial good. It is a union of consummate skill or invention, and exuberant beneficence.

As I have cited an instance of the skill of the Creator in one of the great phenomena of nature, I shall produce one instance from His minute operations, which I shall select (though not *verbatim*) from Dr. Southwood Smith's admirable publication on the Philosophy of Health, viz.: The Processes of Circulation and Nutrition in the minute Capillaries and secretive Organs of the Body.

One of the most striking distinctions between organic and inorganic bodies is, that the particles of which the former are composed are in a state of perpetual change, while those of the latter are fixed. In the progress of those unceasing operations which constitute the vital functions, new particles are constantly introduced into the body, and old particles are as constantly removed. Hence the matter of which living beings are composed is never the same for any long time together: after a certain interval, not a single molecule remains the same; and life itself ceases the instant the power of accomplishing this removal and renewal of the constituent particles of the living body is at an end, or is even materially impaired. In the first great division of the organic world, the vegetable kingdom, the fluid by which new matter is introduced into the living plant is the sap. In the second great division of the organic world, the animal kingdom, the fluid by which new matter is introduced into the living animal is the blood. The blood, in all the higher animals, is a fluid composed of numerous and heterogeneous substances, which are held in unison by peculiar affinities, different from all others in nature, and which, when they separate from each other, separate by processes which are also peculiar and different from all others in nature.

The apparatus by which the blood is distributed, in the living bodies of animals, in its ultimate divisions, that is, in that portion of the apparatus in which the distribution really takes place, is so complex, delicate, and minute, that the human mind can scarcely form an adequate conception of it.

In all the higher animals there are four distinct and opposite currents of blood in incessant motion, each keeping to its own channel and observing its own course, with a uniformity and constancy as perfect as the ebbing and flowing of the tides.

The central engine, that generates the power which puts and keeps all in motion, is the heart. The first of these currents, the main and essential one, flows from the heart to the different parts of the body; the second current flows from every point of the body back to the heart; these two currents taken together, constitute what is called by physiologists the Greater or the Systemic Circulation. The third current flows from the heart to the lungs, and the fourth from the lungs back to the heart; these two currents taken together constitute what is called the Lesser, or the Pulmonic Circulation. Of the structure of the heart, by which it is fitted incessantly to receive into it, and as constantly to force out from it, these four different and opposite currents, and of the structure of the different tubes or canals, which receive the currents, and by which each is adapted to convey its appropriate stream to its destination, and again to return it to its source, a minute account is given in the Philosophy of Health. For the present purpose it will be sufficient to give a brief description of the apparatus for the distribution of the blood from the heart to the system, and from the system to the heart.

The tubes which carry out the blood from the heart to the system, are called arteries. One large artery springs from the left side of the heart, constituting the trunk from which all the other arteries of this system are derived as branches. The branches of a tree, dividing and subdividing to their minutest ramifications, or what are termed the veins in a leaf, forming, by their successive subdivisions and reunions, a complex and delicate net work, may convey some idea of the division and distribution of the arteries of the body, although a very inadequate one. The minutest of the so-called veins of the most delicate leaf is a body of great magnitude, compared with the ultimate divisions of the arteries. These ultimate divisions, called capillary, from their hair-like tenuity, are so universally diffused through the body, that there is not a part of it into which the point of the finest needle can be introduced without wounding some of them, and causing the blood to flow from them. The red colour of the blood is owing to particles of matter which possess a definite organization, having a round and flattened form, with a defined and thickened margin, very similar in figure to a penny piece. The magnitude of these particles in the human body is variously estimated, from the two thousandth to the six thousandth part of an inch in diameter. Now, some conception may be formed of the minuteness of the capillary arteries, from the fact, distinctly ascertained by observing them under the microscope, that some of these tubes are too small to admit of a single red particle—at a medium calculation, not more than the three thousandth part of an inch in diameter. Some of these capillaries are distinctly seen to be large enough to admit of three or four of the red particles of the blood abreast; the diameter of others is sufficient to admit only of one; while others are so small that they can transmit nothing but the watery portion of the blood. Anatomists have demonstrated that the coats of the capillaries successively become thinner and thinner as they diminish in size, until at length, in some cases, they disappear altogether, and consequently that such vessels ultimately terminate in membraneless canals formed in the substance of the tissues; that is, in the substance of membrane, muscle (flesh), cartilage (gristle), bone, &c. It would appear, therefore, that in many cases these tubes go on dividing and subdividing until they reach such an extreme degree of minuteness, that the membranous substance which composes their walls is capable of undergoing no further degree of tenuity. As long as the capillary is of sufficient magnitude to receive three or four of the red particles of the blood abreast, it is evident that it possesses regular parietes; but great numbers of these capillaries lose altogether their membranous coats. In these latter, the blood no longer flows within actual vessels; it is not contained in tubes, whose parietes are formed by a membranous substance, distinguishable, by its texture and compactness, from the adjoining cellular tissue; it is contained in the different tissues in channels which it forms in them for itself; and under the microscope, it is seen easily and rapidly to work out for itself a new passage in the tissues which it penetrates. While countless numbers of the capillaries thus terminate in the different substances of the body, in membraneless canals, others which do not divide to this extreme degree of minuteness, but which still retain their membranous parietes, after winding through long routs, and describing numerous turns, open by direct communication into another system of vessels, forming, with the latter, continuous tubes. The vessels which belong to this new set, possess a structure appreciably different from that of the arteries, and take an opposite direction. They receive the blood from the capillary arteries in every part of the body, and reconvey it back to the heart. They are called veins; and these vessels, arising at every point of the body from the arteries, have tubes as minute as the latter, proceed, like the arteries, in an arborescent manner, but in an inverse order, from invisible capillary vessels to visible branches, and from visible branches to large trunks. In every part of the body where the capillary arteries terminate, the capillary veins begin; and the venous capillaries uniting to form branches, and the larger branches uniting to form trunks, and the small trunks still uniting to form large trunks, and the large trunks always advancing towards the heart, and always increasing in magnitude as they approach it, form at length two great veins, by which all the blood in the body is returned to the right side of the heart, as the great artery which carries out the blood to the system springs from the left side of the heart. The veins are very much more numerous than the arteries; for they constantly consist of double sets, and they are at the same time more capacious, and more extensible. Reckoning the whole mass of the blood at one fifth of the weight of the body, it is estimated, that of this quantity, about one fourth is contained in the arterial, and the remaining three fourths in the veinous system.

The heart, that ever active engine which generates the power that moves the blood through these different systems of vessels, is proved by experiment to exert, in the human body, a force of about six pounds on the inch. That part of the human heart which generates the force by which the blood is moved through the general system, namely, the left chamber or ventricle, when moderately distended, has about ten square inches of internal surface; consequently, the whole force exerted by it is about sixty pounds. With a force equal to the pressure of sixty pounds, the heart, then, propels into the great artery that springs from its left chamber two ounces of blood at every contraction. It contracts four thousand times in an hour. There passes through the heart, therefore, every hour, eight thousand ounces, or seven hundred pounds of blood. The whole mass of blood in an adult man is about twenty-eight pounds: on an average, the entire circulation is completed in two minutes and a half; consequently, a quantity of blood equal to the whole mass passes through the heart from twenty to twenty-four times in an hour. But though the average space of time requisite to accomplish a complete circulation may be two minutes and a half, yet when a stream of blood leaves the heart, different portions of it must finish their circle at very different periods, depending in part upon the length of the course which they have to go, and in part upon the degree of resistance that obstructs their passage. A part of the stream, it is obvious, finishes its course in circulating through the heart itself; another portion takes a longer circuit through the chest; another extends the circle round the head; and another visits the part placed at the remotest distance from the central power. Such is the velocity with which the current sometimes goes, that in the horse, a fluid injected into the great vein of the neck on one side, has been detected in the vein on the opposite side, and even in the vein of the foot, within half a minute.

But the blood, in flowing through the arterial trunks and branches to the capillaries, through the arterial to the venous capillaries, and through the venous branches and trunks back to the heart, is exposed to numerous and powerful causes of retardation; such as the friction between the blood and the sides of the vessels, the numerous curves and angles formed by the branches in springing from the trunks, the tortuous course of the vessels in many parts of the body, and the increasing area of the arterial branches as they multiply and subdivide. In tubes arranged in this manner, formed of dead matter, however elastic, a force of sixty pounds would be utterly inadequate to propel the current through the extreme branches: a force adequate to do this, while it must be very intense, perhaps destructively intense at the centre, must necessarily become progressively feebler and feebler in the more distant parts of the system. What is the case in the living body? The astonishing fact has been discovered, and its truth demonstrated by the most decisive experiments, that in the living body the blood moves with precisely the same force in every part of the arterial system; in the great artery, as it springs from the left chamber of the heart; in the great artery in the neck, which carries the blood to the head; in the artery which carries the blood to the arm; in the artery which carries the blood to the lower extremities; in a word, in the most minute and remote capillary, and in the large trunk close to the heart. Among the beautiful adjustments everywhere established in the living being, this is one of the most wonderful. The blood, propelled by a living engine, which moves under laws peculiar to the state of life, is received into living vessels, which, in their turn, acting under laws peculiar to the state of life, so accommodate themselves to the current, as absolutely to offer *no resistance whatever* to its progress; so accommodate themselves to the moving power, as completely and everywhere to obviate the physical impediments to motion inseparable from inorganic matter.

Such is the apparatus for the distribution of the blood. The process by which the different fluids and solids of the body are separated from the blood, or formed out of it, is termed secretion. All that is essential to the apparatus of secretion, infinitely varied as it is in form, and inextricably complex as it appears in structure, are an artery, a vein, a nerve, an absorbent, and a sufficient quantity of cellular tissue to allow of the free expansion of these vessels, and of their complete intercommunication. The animal substance called membrane, which is composed of arteries, veins, nerves, and absorbents, sustained and connected by cellular tissue, constitutes such an organ. Accordingly membrane, disposed in its simplest form, namely, as a uniform, smooth, extended surface, constitutes the simplest kind of secreting organ. Next, membrane is dispersed into a minute pit, called a crypt, which is sometimes inclosed on all sides, forming a cell or vesicle, and this constitutes the second form of secreting organ. Next, the vesicle, instead of being rounded, is elongated into a neck, not unlike the neck of a bottle, and this is called a follicle. Then the follicle is somewhat elongated without neck and without terminal expansion, and this is termed a cæcum or pouch. And lastly, the cæcum itself is elongated, so that, instead of presenting the appearance of a pouch, it rather resembles a tube, and is accordingly named tubulum. These vesicles, follicles, cæca, and tubuli, constitute the four elementary forms of the secreting organs. One of these elementary bodies may exist alone as a simple organ, or many may be collected into a mass to form a compound organ. In a simple organ, as in a single vesicle, or follicle, the matter secreted from the common mass of the blood is elaborated at the inner surface of the vesicle, and is contained within its cavity. When required to perform the office for which it is destined in the economy, it quits this cavity by transuding through the walls of the vesicle. But when a great number of vesicles are aggregated into clusters, it sometimes happens that each individual vesicle opens by a distinct orifice, into a common receptacle, or sac. In like manner, in some very simple arrangements of cæca and tubuli, each body opens by a distinct orifice; but when these bodies become aggregated into dense and thick masses, and, more especially, when layer after layer of these masses, containing myriads of myriads of vesicles, follicles, cæca, or tubuli, are superimposed one upon another, it is impossible that each individual body can have a separate orifice. In this case, a minute tube springs from each body, a complete connection being established between the individuals composing the mass, by the free intercommunication of all the tubes. These tubes are called secreting canals, and the common trunk formed by their union is termed the excretory duct. The secreting canals contain the secreted matter; while the excretory duct collects this matter, and conveys it to the part of the body in which it is appropriated to the specific purpose which it serves in the economy.

The basis of the secreting apparatus of the animal body consists, then, in membrane, disposed in one or other of the elementary forms which have been described. The capillary arteries are spread out upon the walls of these elementary bodies, whether they consist of single vesicles, follicles, cæca, or tubuli; or whether these bodies are accumulated and combined into the largest and most complex series of secreting canals. The capillary arteries, always smaller than the minutest secreting bodies, on the walls of which they are distributed, form a distinct and peculiar system of vessels visible under the microscope. In the more complex secreting organs, immediately before reaching their distribution upon the walls of the secreting canals, the ultimate divisions of the arteries form an intricate and delicate net-work. When at length they reach the secreting canals, the arteries no longer divide and subdivide, but are always of the same uniform size in the same secreting organ, though their magnitude is different in every different kind of secreting organ. These ultimate divisions of the arteries are the proper capillary arteries. It is in these arteries that the changes are wrought upon the blood, which it is the object of the various processes of secretion to effect. In the walls of these arteries there are visible no pores, no apertures, no open extremities by which the secreted fluid, when formed from the blood, is conveyed into the cavity of the secreting canals; it probably passes through the walls of the vessels into the secreting canals by the process of endosmose.

Moreover, secreting organs are very abundantly supplied with nerves, which are derived for the most part from the organic portion of the nervous system; although sentient nerves are mixed with the organic. The more important secreting organs have each a distinct net-work, or plexus, of organic nerves, which surrounds the blood-vessels distributed to the organ, and which envelopes more especially the arterial trunks and their larger branches. From these plexuses, nervous filaments spring in countless numbers, which are spread out upon the walls of the secreting canals. The nerves never quit the arteries: they are never spent upon the membranous matter which forms the basis of the secreting organ, but are lost upon the walls of the capillary arteries. It is remarkable, that the nerves uniformly increase in number and size as the arteries diminish in magnitude, and as their capillary terminations become thinner and thinner.

When the secreting apparatus consists of simply extended membrane, a close net-work of capillary arteries, with their accompanying nerves, is spread out over the whole extent of the secreting surface. This simple arrangement is sufficient to separate from the blood the simple secretion in this case required.

When the secreting apparatus consists of simple cryptæ, follicles, cæca, or tubuli, a similar net-work of capillary arteries and nerves is spread out on the sides of this more extended surface. The more elaborate secretion now formed is received into the interior of these organs, where it remains for some time, and whence it is ultimately conveyed, as it is needed, in the system.

But when the secreting apparatus consists of great numbers of vesicles, follicles, cæca, and tubuli, with their net-works of arteries and nerves aggregated into a large mass, enveloped in a common membrane, so as to form a distinct body of a solid consistence, there is constituted the organ termed a gland. Primary aggregations of these secreting bodies constitute a simple gland; such are all the glands connected with the absorbent or lymphatic system. Secondary aggregations, or aggregations composed of simple glands, constitute a compound gland: such are the organs commonly termed viscera, as the liver, and spleen, the pancreas, the kidney, and so on.

In this manner, membrane having a specific arrangement of blood vessels and nerves, from being simply extended, is folded into a few elementary forms: the bodies which result constitute simple secreting organs; these bodies collected together form, by their aggregation, compound organs; the compound organs, uniting, form aggregates still more compound, until at length a structure is built up highly elaborate and complex.

In every case the object of this complexity of combination and arrangement is to obtain surface and to concentrate action. A certain amount of secreting surface is gained by the disposition of the simple membrane into the form of the vesicle. The collection of a number of vesicles into a cluster, doubles the extent of the secreting surface, by the extent of every vesicle that is added to the cluster. The addition of every cluster doubles the whole extent of surface acquired by a single cluster. But when stems spring as if from a common trunk; when branches spring from a stem; when small branches spring from the large branches, and yet smaller branches from the small in a series which the eye, assisted by the most powerful microscope, is wholly unable to trace; when all the clusters thus formed are collected and combined into a compact mass, the intricacy of which no art can completely unravel, the extent of surface obtained is altogether immeasurable. How immense must be the extent of surface thus acquired in such an organ as the human lungs, in such a gland as the human liver.

In such an aggregation the concentration is also equal to the accommodation; the maximum of surface is comprised in the minimum of space; and the energy and elaborateness of the function of a secreting organ is uniformly proportionate to such a concentration of its secreting substance.

How this complex and minute apparatus works, in elaborating from the blood the various secretions of the body; how out of one and the same common fluid, one apparatus forms milk, and another bile; one membrane, and another muscle; one bone, and another brain; and what physical and vital conditions influence these mysterious processes,—it is the object of the Philosophy of Health to explain, as far as it has yet been permitted to us to obtain a glimpse of the most secret and subtle of the Creator's works, in this wonderful world.

We now come to the ultimate purport of this description. If such is the machinery necessary for the growth and repair of the body after birth, such is also the nature of the process by which it is built in the embryo state, except that it is then all growth instead of repair. There is not an atom added to the embryo but is added by an arterial tube. What shall we say, then, to the astonishing fact, that, previous to the exquisite processes that have been described, the arteries, their capillaries, their nerves, the absorbents, and the veins, the secretive organs in all their complexity, were previously formed, not by evolution, but by successive addition of parts; the parts more distant from the first germ being sometimes formed before the proximate parts; and that from the first visible speck to the entire animal, all is formed by arterial process, one artery constructing another, and all joining to construct, as they are successively organized, the substance of the bones, of the muscles, of the membranes, of the nerves, and every part of the frame. What shall we say to that complexity of plan, and that power of execution, which gave the first created animal the principle to impart to successive arterial germs the impulse to work thus undeviatingly from one generation to another; to appropriate nutritious particles not merely to sustenance, but to arterial organization, and to make other arterial architects, which become as active as itself, and all to proceed in their work without any conceivable rule or law; without any conceivable connecting cause, some to form an eye—some to lay down the rudiments of a feather—all to keep to one plan—to preserve the same species (with a small compass of variety) to the end of time.

What shall we say to these things? This we may safely say, that the skill and power of the Being that does such acts before our eyes has no conceivable limit; and if for reasons probably moral, he has permitted these operations sometimes to be subject to trifling irregularities and blemishes, it cannot be because he could not avoid it, for there is nothing above the faculty or power of a Being that can do such things.

We have seen the fallacy of some of the supposed objections to the skill of the physical system, and the probable cause of those few, that we may deem if any, physical defects. And is it for such trifles, such anomalies as these, that we question the physical perfection of a scheme consisting of such provisions? that we can question whether the Creator of water and organic life has made the moral world a consistent scheme? In the cases of human contrivance, we judge very differently. If an artist makes a very skilful machine, requiring much depth of scientific knowledge, and he makes a very simple one, requiring little or none, and we can discover no defect in the complex instrument, and some glaring blemish in the latter, we do not question his ability to have made it without that defect, but attribute it to accidental causes,—perhaps his inattention to such a simple work. We say, if he could finish the incomparably harder design, he could certainly have completed that which is easy. If Watt succeeded in the steam engine, he certainly could construct a common iron box; yet he might, from inattention or accident, have made a very imperfect specimen of the latter. But why should we not reason thus with respect to the works of the Creator; with this difference, that, instead of attributing an apparent blemish in the more simple or minute of His works to accident or inattention, we attribute the apparent defect to the agency of general laws, and probably, a moral cause? Reasoning naturally and legitimately in this manner, we should say, He who so exquisitely balanced the nature of the constituents of weather, as that the great irregularities to which it is subject are found to be an average at a given time in a given place, could instantly have prevented such phenomena as tornadoes, had he not reasons (probably moral) for such violences. The former provision requires such deep complex calculations (humanly speaking) as we cannot even imagine: the latter would probably be effected by the mere simple diminution of some physical forces. The skill or power that could produce the balance, are certainly greater than are necessary to avoid the mere excess. We should argue very inconsistently, then, if we inferred that either want of power or wisdom in the Creator produced these destructive phenomena, even if we had not the before-mentioned reasons to believe the tornado an agent in a moral plan. Not only in this instance, but in all others in the physical world, the things which have no apparent blemish, the parts that are entire, require incomparably more skill than the exceptions. The consummate wisdom manifested in the whole physiology of the human body is far more profound than could be requisite to prevent an occasional deformity; and if the Creator has so constructed the human frame, we cannot rationally attribute an additional or deficient member to a want of contrivance or power,—defects that a common toy-maker would avoid. The natural inference (even if we were sure there were not some moral end in these exceptions) would be, that there is some reason for employing general laws, which naturally clash and produce such exceptions; for it is far more probable, that general laws are a wise provision, than that the contriver of those complex laws should want skill or power to create the physical system without such exceptions.

Our inference, then, is, not that the physical world is perfect, for it belongs not to us to claim such a knowledge of the vast system as to pronounce it perfect; but that there is infinitely too much wisdom, and skill, and power, displayed in all that we know of the physical world, to admit the supposition, that the moral scheme of the same great Creator is an incongruous, incomplete, abortive design.

But the inference will appear stronger and more invulnerable still, if we consider again the peculiar nature of these few instances of physical deviations. If they are brought by our opponents as reasons for questioning the consistency and perfection of the moral system, the comparison, I repeat, is invalid. These deviations are only *exceptions*,—the moral world is a *system*,—therefore there is such a diversity in the things compared, that the inference must be illegitimate.

Shew us any general rule or system, any contrivance in the physical world that is in its nature ill adapted to its end, and then we will admit that the moral plan or system may be incongruous. But it is a very different argument to oppose the exceptions of one system to the uniform course or design of another system; and, therefore, we conclude, that if the irregularities, or monsters, the diseases and malformations in the physical world are defects, of which we cannot be sure unless we know all their moral bearings, still they are not such kind of defects as would impugn the admirable consistency and completion of any *plan* or system of the same Great Artificer; for if we admitted these were decided exceptions to the perfection of the physical system, still, if the Creator never planned any incongruous *scheme*, if the scheme, as a scheme, is always admirable, we have security that he has made the moral plan a skilful and consistent system; and if it cannot be so without some future consummation, we have all the evidence for a future state that analogy can afford. The plan, independent of these exceptions, is exquisitely skilful; and at the utmost, all that we could infer from these exceptions is, that the moral plan might have some analogous exceptions and anomalies also. I say, if the moral plan itself be wise and skilful, and if a future consummation of it, in another state, be palpably necessary to render it complete, the exceptions would not affect the great inference, that there was a future state: it would only indicate that exceptions of some kind might mark that scheme. Look at the vast physical scheme as a connected whole. Trace it in its various ramifications, from the most remote telescopic star to the least atom of the least microscopic animal. Observe these known extremes of creation, connected by the same laws of gravity and light, implying the same end,—the enjoyment of sentient and rational beings. Note the intermediate complexity of contrivances, the exquisite adaptations, and then the above few trifling exceptions, a few clashing laws, producing a few irregularities, and the inference is clear:—if the moral world be a scheme analogous to the physical, it cannot be defective in any main part of the design, in any provision belonging to system itself. If there be deviations, and if the deviations are analogous to those in the physical kingdom, they at most affect the *details* of a future existence: they cannot affect the all important *fact*. To suppose that the want of a future consummation to the moral system may be a mere exception to the goodness of the moral plan, would be truly absurd. That consummation (if required, which is the point to be proved) must be a *vital part* of the moral system. Let the objector then shew us any other plan in nature, in which a vital part is omitted, and then we may begin to question whether the Creator has ordained the moral system to be a skilful and finished scheme.

Such is the principle on which the following chapters are built. If this principle be acknowledged,—if it be admitted that the physical universe, collectively and separately, consists of such skilful adaptations,—it is incredible that any other system by the same Great Artist, can be incongruous, defective, or unfinished in plan. Then we fear not that the conclusion that analogy requires will appear clear and convincing; but if the reader be doubtful of the validity of our principle, he will do well to close these pages, for it is only on those premises that our inference can be satisfactory. We argue only on the premisal, that the trifling anomalies or defects in the physical world impugn not the consummate wisdom of the plan itself; and, consequently, that plan, including all its subdivisions, affords us the presumption, that every other work of the same Almighty Artist is consummately skilful, and will be completed here or hereafter. I will briefly recapitulate the basis of the argument. There is no real incongruity or failure, nothing done for nothing in any part of the physical or organic world. It is, therefore, not conceivable that there is a failure in that scheme to which the physical and organic are merely subservient,—the sentient, intellectual, and moral. But if there be no future state for man (the crown of all that we know of this portion of nature), there is, in regard to him, as we now proceed to shew, incongruity, failure, in the whole scheme; and much, *very much*, that is done for nothing.

CHAPTER II.

SECTION I.—*Inference that the Moral World is a Definite and Wise Plan completed either here or hereafter.*

FROM what has been observed respecting the exceptions to the perfection of the physical system, from the very brief and imperfect view in Part I. of some of the wonderful harmonies and adaptations of different departments of nature in one plan, or system, as exemplified in the human senses of sight and hearing; from the preceding instance of the nature and uses of water, organic formation, &c., we may confidently assert, from those instances alone, that no part of nature can be constructed without some express design: this is the least, the obvious, and most simple inference from the analogy of the physical world.

When I say that the moral world is a plan, I do not mean merely that every distinct faculty of the human mind had a design bearing on the rest, but that the whole system has some ultimate design, which admirably corresponds with its nature; because we find a complete adaptation of means to ends in every other department of nature. To prove this point in detail, we may notice the corresponding congruities in the physical world; the various habits, in short, the history of the various grades of animals, from the polypus and oyster to the highest grade under man. If, through all these series, including all the orders and genera of sentient beings, there be not a single authenticated instance of an organ or faculty which is incongruous with the external circumstances in which that grade is placed; (although from our ignorance of all their habits there must be some correspondencies which we have not yet discovered, yet, if in this vast series, not a single well authenticated incongruity of faculties and organs can be produced;) surely it is incredible that this harmony of adaptation should stop just at the very highest grade—that the most important work of Divine skill should alone be planless. It is almost unnecessary to specify peculiar examples of the physical adaptations: one, however, will be quite sufficient at present, by way of illustration, because the fact as regards all other animals is not disputed. The *parental instinct* in animals, whose nature requires protection in youth, is one of these nice adjustments. This principle is so strong, that no fond father, no doting mother, would venture more danger, or exhibit more intense feeling in defence of their offspring than some of the most timid of birds; for the little unfledged creatures are, like the human young, utterly defenceless; but as soon as they are able to supply themselves with food, and to evade danger, all this violence of attachment suddenly entirely ceases. The creatures in a short time do not probably recognize each other; while the human parent remembers, with stronger affection than when it was alive, the child she buried 20, 30, 50 years ago, and dies with resignation because it is gone before her. Now all we are asserting is, that this adaptation does not cease just at the grade that precedes mankind;—that all his faculties tend to some end, and are adapted to it with the same skill as the animal instincts to their several purposes. But on the principle of the superior dignity of man's nature, unquestionably the most important, and the only moral being on earth; on this principle, as well as the general analogy running through the series, we say there must be some definite and especial design in the nature of man.

Who can question whether the most refined and complex adaptations have a definite design, when they distinguish the most important of the Creator's known works? Who can question whether a moral Being of consummate wisdom had some end when he formed a moral world? If he has contrived the structure, the appetites, the instincts, the food, and other comforts of a grub, or a worm, or a fly, with such admirable artifice and unerring skill, it cannot surely admit of a doubt that He constructed the human mind, the rational being, *on some plan.* The most noble part of His wonderful works known to us is not, certainly, the only portion of them which was not designed for some decisive and worthy purpose. Human nature must have been ordained for some end terminating either in this world or another. And if there be a system or plan, we cannot question but it is a skilful plan, and will be finished here or hereafter; for it is upon precisely the same physical evidence that we infer, both that the Creator works not without an end or purpose, and also the congruity and completion of all His designs. All the physical phenomena that exhibit design, as far as we comprehend them, manifest also the full completion of each contrivance. Upon what principle, then, can our opponents impugn the conclusion that there is a future state for makind? Only on this ground, I think, that there is, or may be, some completion to the moral system in this world. If so, it appears that there is no other alternative for those who deny a future state, than to shew that such a mixed state of good and evil as human life exhibits here, is an end consistent with our nature; that the moral world has a definite and consistent end and purpose, although it should terminate here. The purport of the following pages is, first, to shew that there is no such end or consummation in this life; that the moral world is not a system intended for limited happiness; that, in fact, if the moral world terminate here, it is an abortive scheme, and that we are equally sure of this, whether the whole plan be comprehensible or not. But our evidence does not stop here: it will be shewn, secondly; that the moral world is a plan actually begun: thirdly, that it is not merely abortive, but contradictory and incongruous, if it terminates here.

We shall demonstrate these three several positions, each being independent arguments for a future state. The proof of the second does not depend on the verity of the first, nor the third on the second. But if these positions can be proved, their united evidence unquestionably establishes the conclusion we seek.

First: The most obvious means of ascertaining whether there be any finished plan in the moral world, terminating with this life, is to inquire what have been the most consistent conjectures (on natural principles) concerning the design of human nature, supposing man's existence limited to the present state.

It is not a little presumptive against the consistency of any scheme merely temporary, that Paley dismisses the only four suppositions that appear to have occurred to him, in the most abrupt and confident manner, not deigning to confute them by a single argument. "It is not," says he, "a state of unmixed happiness, or of happiness simply. It is not a state of designed misery, or of misery simply. It is not a state of retribution. It is not a state of punishment." Thus he concludes these conjectures. Why are we here? is a question which those who know not, or who distrust Revelation, have ever been asking, but without an approach to a consistent answer. This also is a strong presumption that we shall not find any congruous plan on this supposition; and yet, I repeat, who can question that the Great Architect has some design, and that a wise design? A man must abandon the analogy of all His works that are known to doubt this. It is to be remarked, that Paley, among these suppositions, has not suggested the most obvious, perhaps, of all the conjectures that have been offered for a solution of a temporary system, viz.: that the moral plan is intended, like the animal, to be a scheme of *mixed good and evil:* that man, like the beasts, is ordained to have his peculiar enjoyments, and, like them, limited to this life. But there is a very satisfactory reason to be given why Paley did not mention this explanation of moral existence, viz.: that such an indiscriminate mixture of good and evil is no plan, no system at all for a *moral* being. A mixture of good and evil, in which the good vastly predominates in the aggregate, is a very consistent and very benevolent scheme for animal existences. They are fitted for no other pleasures;

and any arguments which tend to prove that their pleasures are too limited in duration, now, would prove that a gnat ought to be immortal: so that the system of a mixed and limited enjoyment appears admirably adapted to their nature. But as extended to such beings as man, if admitted, by courtesy, to the name of a plan, it is certainly so incongruous as to violate every analogy in nature, and it would be the only plan that violates her known and admirable adaptations.

Let us then proceed to examine this supposition, that life is intended for a state of mixed enjoyment, not because it demands a grave and detailed confutation by any weight which it intrinsically possesses, but because it is really the only supposition that has the slightest plausibility, except the solution that involves a future state.

SECTION II. — *Proofs that the Moral Plan is not a Provision for limited Enjoyment in this Life.*

THERE is a shew of consistency in the following arguments: first, that man being an animal, it accords with his nature to have a limited happiness: secondly, that his present enjoyments differ from those of other animals, as much as his nature differs, and, therefore, if both natures become extinct, that there is just the similarity of end, and the difference of enjoyment, which analogy would lead us to expect. Were these arguments valid, then is human what bestial life appears to be, merely a provision for a certain quantum of enjoyment. There is no wonder that this solution has its advocates; for while it gives a relief to the perplexity of those who will not acquiesce in the obvious solution of the problem, it is an answer peculiarly gratifying to all those who resolve to make life a system of enjoyment.

So obvious are the inconsistencies, however, of the *moral* nature of man with a scheme of mere *enjoyment*, that the only defence, I believe, such a supposition admits of, is to shew that there are similar inconsistencies in the animal scheme of limited enjoyment, and thus to controvert the basis of our comparison; and as I would wish to give an adverse argument its greatest weight, a few such apparent objections may be noticed, before we shew the real incongruities of the same interpretation of the moral system.

It may be said by the advocates for this solution of temporary enjoyment for man, that the same scheme, in the irrational world, has also its anomalies, and great irregularities; and that though it be, on the whole, a plan or system, yet it is too casually constructed, too liable to accident, to form a criterion upon which to build the inference, that the moral system must needs be a perfect incongruity. And why? "Because (our opponents may say) there is no invariable measure of the degree of enjoyment among irrational creatures. One creature," say they, "ranges in happy liberty; another of the same species is groaning under the oppression of man. One is naturally long-lived, exceeding man's age; another of the same grade dies in two or three years. One creature evinces unequivocal marks of its enjoyment of existence; another of a higher grade, perhaps, exhibits no signs of such gratification. One lives its natural term; another is devoured the first hour it stirs from its nidus." All this is true: nothing here specified is systematic, it is what we call casual; it is certainly in the fullest sense irregular, but so is the disposition of the leaves on a noble oak, and yet the oak is a most exquisite system. No more incongruous is the animal system than an oak tree, although there is this casualty and disorder in the *relative quantum* of enjoyment. We do not contend that there is, or was intended to be, a regular measure in the *degree* of enjoyment in any case; but we assert that the *nature* of the enjoyment is admirably and systematically adapted to these irrational existences. So far from such a regular and invariable gradation being expected, it seems impossible to have occurred invariably, especially where human beings form a part of the animal system; and if they did not, this inquiry would be needless. It does not follow, that because any natural phenomena have a general, systematic, and skilful design, that every part of the design must be systematic and regular. I have stated the instance of the oak tree; but in every department, under a great general system, there are certain subordinate parts perfectly planless, disorderly, and truly, what we call, casual. As Paley observes, where order is not necessary to the general design, there it is not found. A regular gradation, an invariable portion of enjoyment, is not necessary to constitute a general system of animal happiness; for if all have what they should have, it can make no difference in the consistency of the scheme, that the relative proportions are irregular. It cannot affect the happiness of the partridge that the parrot has a longer life, if the partridge has as much enjoyment as it ought to have; and who shall venture to say that it has not? It cannot affect the enjoyment of the rook that the raven lives so much longer, though so nearly allied, if the rook has, on the whole, a happy existence. And in all those cases where the lives are irregularly terminated by casualties, or the system of prey, if all the existence permitted be enjoyed, it would be a bold assertion that, in the most limited cases, there ought to have been more enjoyment. For the very same argument, as Dr. Crombie truly observes, which would prove that there ought to be more than the most limited excess of pleasure over pain, in these cases, would prove that animal enjoyment should be unlimited, which is palpably absurd and inconsistent with animal nature, unless we can bring our minds to believe that an oyster ought to be immortal; and even then, when we had proved the duration should be unlimited, to our own satisfaction, we must, to be consistent, contend that the intensity ought to be unlimited also; and that an oyster ought to be a deity.

It is, therefore, no valid argument against an admirable plan in the system of animal enjoyment, that that enjoyment is casual and irregular in *degree.* The degree of enjoyment is that subordinate part of the system which admits of infinite variety and unbounded casualty; the admirable adaptation of the system is manifest, not in the degree, but in the *nature* and *kind* of the enjoyments provided for the peculiar appetites and faculties of the various grades: here all is a beautiful unerring system. The desires, the instincts, are perfectly adapted to the structure of each animal, and there are to each species the most exquisite adaptations of food and·habitation, and all other necessaries, comforts, and pleasures. In this lies the *system*, and it is one of undeviating consistency, unerring perfection, as far as our knowledge makes the several particulars perfectly comprehended.

Therefore, the objector cannot rationally maintain, that the moral world may be a planless scheme of enjoyment, on the principle that there is also a want of plan in the animal system: there is not a want of plan, but, as far as we can judge, a perfection of plan in this department. But when we look at the moral world, this supposed system of limited enjoyment, by the same criterion, viz., the *nature* of the enjoyment and its adaptation to the *faculties*, *desires*, and general nature of moral beings, there we see at once the striking difference: the want of adaptation, consistency, or system, runs through the whole. I have mentioned one instance, viz., the duration of parental affection, so adapted in the brute to his short period; so incongruous in man, if there be no future. The following are also a few of the inconsistencies involved in this supposition, and in full force against such an interpretation of the design of this life.

First: The happiness of the irrational creatures is sure, but for accidental interruptions. Give them their natural wants, and they are happy. But the happiness of the rational creatures is marred by themselves: for virtue, without religion, is too weak to defend us from imprudencies destructive of much happiness. With religion, it is a deceptive security if it ends in nothing, and, therefore, such would be a palpably inconsistent scheme.

Secondly: The animal happiness is complete at its termination; the moral, when it ends, leaves discipline unfinished, affections rent asunder, hopes unaccomplished, strongly authenticated promises unfulfilled, natural instincts, or principles of religion, without any object.

Thirdly: The animal and moral system united in man, interrupt each other's happiness, and, as a joint system of enjoyment, are a jarring discordant combination, apparently intended and well calculated for discipline only, and, if so, not for a termination at death.

Fourthly: There is no consistency of a system of limited happiness for *moral* creatures, in which the good and bad are indiscriminately liable to its pleasures and its pains,—in which the happiness hangs on a moment's uncertain result,—in which the best characters are often either cut off, or, from calamities they could not avoid, lose a relish for life at the very height of their greatest fitness for the happiness of it,—in which, on the contrary, some of the worst enjoy life heartily for protracted years,—in which the fallacious hopes of a futurity cut off would cause despair,—nay, in which the world itself, without such hope, would have been little better than a pandemonium. What a scheme is this to charge the All-Wise with! A train of precarious and inconsistent happinesses carried on chiefly by a deceiving hope.

Fifthly: To give limited happiness for *moral* beings a consistent end, even a child would make the nature of that happiness depend on some rule, not on accident. Virtue is not always its own reward; and the reward it has is liable to be entirely overwhelmed by external calamity. What perfect virtue might give, we know not: the only approach to it borrows largely from hope of the future. As things are constituted, even the natural punishments of wickedness may be avoided with a little prudence and a seared conscience; and the natural rewards are sometimes cut short at their commencement, or nearly destroyed by outward circumstances.

We are not denying that the moral world is a scene of just such limited enjoyment as the objection describes: it certainly manifests the very phenomena that are specified; but we deny, without the least hesitation or compromise, that this, as exhibited in this life, is a congruous system, or indeed any system. The animal scheme is a most complex and beautiful scheme of adaptations for an enjoyment subject to certain irregularities which do not in the least affect the consistency of the plan. The moral scheme, on the contrary, as far as it extends in this stage, is casual and promiscuous enjoyment, without any adaptation between the means and supposed end. The one is a most skilful system: the other is not a consistent system in any sense of the word. Such is a general and *primâ facie* view of the case.

I shall now enter into some detailed proofs of the [illegible] inconsistency of this peculiar solution of the moral phenomena, because the only conceivable plea on which the alternative of annihilation can be maintained, is through a fancied analogy of man's enjoyment to the limited and mixed enjoyment of the animal kingdom. But, in truth, man's existence, if only temporary, is void of plan: as Paley says, "it is *not a system of happiness; it is not a system of misery*; it is *not a state of punishment or of reward*." Then what is it? The believer in annihilation replies, "It is a mixed state." True—but this decides nothing: this does not constitute a plan, or system, or end, or design, and we are sure the Creator had some end, and obtains it by consistent means. But our opponent says, it is a system of benevolence, thinking to mislead us by the term so applicable to this life in its real point of view. "It is," he contends, "a system of benevolence limited as the acknowledged system of animal enjoyment is limited; and casual and irregular in degree, as that is casual and irregular in degree; and infinitely diverse in duration, as that is infinitely diverse in duration: man being also an animal. Are not these points (he asks) sufficient to make the cases analogous? If so, he contends that the animal nature being admitted to be a consistent plan, or system, so is the human nature." But the similarities can constitute an analogous case only as far as they extend. It would be a most partial view of any subject, to omit the consideration of the many strong diversities and incongruities, especially as the similarities respect only the *degree*, while the diversities respect the *nature* of that enjoyment which is assumed to be the end of both the rational and irrational existences. The nature of the respective enjoyments is, in the one case, perfectly adapted to the structure, and the faculties, and the destination of the creatures; in the other case, the incongruity is glaring: a plan of limited enjoyment may, therefore, very consistently, be the design of the irrational system, while it would be a most incongruous design if it formed the ulterior object of human existence. How admirably adapted to this end are the unerring instincts which guide the animals to their enjoyments! They never deviate from, they never exceed, the most perfect system of epicurean pleasure; they eat and drink, in a state of nature, in such a degree, and just such food, as tends to preserve the most entire health to the longest period. They are liable to be cut off speedily by casualties, it is true, and so is man; but their instinct is calculated to preserve them as long as they live in the most perfect integrity of animal enjoyment. Whereas man—who being, like them, an animal, should surely, if this be his whole existence, enjoy, at least, as much animal happiness as they—is marred in his share of those pleasures by his very superiority. He has imagination and reason, which either lead him in the pursuit, or shew him the means of impairing his pleasures: the consequence is, that the most prudent man that ever lived has less mere animal enjoyment, in proportion to his natural capacity for it, than any creature in existence; and a great proportion of the human race live in such artificial habits as tend most rapidly to curtail the sum of their animal enjoyment.

But not only man's misapplication, but his virtuous employment of his superior powers, tend to mar his animal enjoyments. Laborious and continued exertion of mind, or body, which the best natures are the most apt to carry to a noble excess, injure the animal nature sometimes irreparably.

But the objector may say, that these animal pleasures being a species of enjoyment more particularly appropriate to the irrational races, he does not consider their smaller share any objection to his principle. He may say, how great are man's *mental* enjoyments;—how well calculated, not merely to restore the balance of what he loses corporeally, by superiority of mind, but to exceed by far any mere irrational happiness! This is in part true. Comparatively few of the mere animal advantages joined to a rational intellect, certainly confer not only higher but greater enjoyment than any the mere brutes can experience. But this is an argument that cuts both ways, or may be retorted thus: Whatever inlet to happiness is derived from our superior faculties, at the same enter a host of miseries. Actual present evils, and besides these comparisons between former happier days, apprehension of a thousand ills for ourselves or others, an almost sure subjection to disease at the close of life, the certainty of decay if it be prolonged, and the lifelong bondage of the fear of death. These, in a fancied scheme of enjoyment, surely more than neutralize the advantages of humanity. It is no valid counter-plea to urge that the most miserable man would not exchange his rational nature for that of the happiest of brutes: it only shews his horror of the loss, not his enjoyment of the possession of rationality. There may be great horror at the thought of losing an existence of unutterable suffering. But supposing there be, upon the whole, more enjoyment in human life than there is suffering,—a fact which cannot, I think, be doubted,—on what side would the balance lie if we took away from the sometimes meagre excess of human enjoyment—if from this we took away all hope of a future state, the hope of meeting our lost friends, or of their existence; if we took away all the moral and religious inducements to live virtuously, and consequently happily? Take these away, and human life would be in general a scene of unbridled licentiousness, ending in the blackest despondency, as it is, in some cases, even now. But these hopes, these salutary restraints, are all parts of the system of a futurity; a part of the scheme directly impugning the argument for its being intended for enjoyment here; and, more than this, a part of the system of human nature which *must* involve a futurity, unless the Creator imparted such hopes, desires, fears and motives, without any corresponding realities; and that alternative we may credit when there are any passions, appetites or instincts discovered in animal nature, that have no counterpart in the habits and destination of the creatures so endowed. And, therefore, we reject the supposition that the end and design of human nature is a precarious and sometimes trifling balance of enjoyment, to terminate here; that balance of enjoyment, *obtained solely* by the means of hopes and fears, and duties and discipline, all appertaining to another state, real or believed. Ending here, the present life would be a poor deceptive scheme; niggardly in its enjoyments, immoral in its means, and incongruous in its end. Such it would be if designed for that limited enjoyment which is so bountiful and consistent in the irrational world; and as such it would be the only incongruous scheme which has been discovered among the works of the Almighty. But this is the sole supposition respecting the design of the moral system, which has or indeed which can be formed, that has the semblance of probability.

Such then is our *negative* evidence. We shall next proceed to prove that the moral system is a plan, having a positive and decided character, involving, necessarily, a consummation of some kind in another state.

CHAPTER III.

SECTION I.—*Proofs that the Moral World is a System of Moral Government commenced, but incomplete if it terminate here.*

THERE are three assertions contained in this position: first, that the moral system is that of a moral government: secondly, that it is ordained by the Creator: thirdly, that it is only begun in this world. I shall first endeavour to shew that there is a moral government in the world; and then that it must have been ordained by the Creator himself, and is not contingent on any other circumstances;—that he has constituted human nature with that intention and design. It will be very easy to prove that this system is not completed in this life.

Having ascertained the facts, the natural consequences of such a constitution of the moral system are too obvious for proof. It will scarcely be questioned, that such a design (being clearly ascertained) will be completed hereafter.

The fact that there is such a moral government is, as Butler observes, one of *experience*, rather than argument. We experience it in our minds, and in the constitution of things around us: in our conscience and passions, in the structure and feelings of our hearts, in the opinions of society, and in the course of events springing from these internal principles. The result of which constitution of things may be briefly comprehended under the moral position:—that virtue, *as virtue*, is always beloved and favoured; vice, *as vice*, condemned and discouraged: which facts form the foundation of a moral government.

With regard to these facts, we have only to appeal to the reader's knowledge of what takes place in his own mind, and has occurred in the history of the world, and to caution him, in the estimate he forms of the truth of the above position, not to overlook the very material qualification pointed out by the italics, and which has ever been urged by the writers on the subject, that it is to virtue and vice *as such*—divested of all the concealment, or imitation, or equivocation with which circumstances will invest human character, that the human mind and the course of human events award honour or infamy, benefits or injury, advantage or loss. Who, generally speaking, are easy and happy in their own minds (except when under external calamities); who have a cheerful, unburdened, peaceful spirit, open to all the various gratifications of life, but the virtuous? Who are loved, respected, trusted, commended; who are most frequently rewarded with places of profit and honour; and whose habits and conduct produce naturally health and riches, but the virtuous? A vicious character may possess, for a time, very high spirits; but it is not from his mind that he derives such enjoyment, but by its intoxication: he may be courted, admired, and benefited, but it is because those who act thus by him, reap some advantage or amusement in his power to confer; it is never because he is an immoral character. And he may acquire riches, because he may acquire them dishonestly, and retain them avariciously, before there be an opportunity for his character to shew itself; or his abilities or industry may be so great, as to counteract any disadvantages that a bad character can involve; but this is not gain proceeding from his vices, but their concealment, or from some estimable qualities he may possess. The general rule is, therefore, not impugned by such instances. The second assertion is this: For the constitution by which virtue is thus generally rewarded as virtue, and vice punished as vice, there can be no assignable cause but the express intention of the Creator. For this order of nature, this construction of the moral world, can be referred only to his appointment, not only as all the phenomena of existence must ultimately have proceeded from him, but as it is produced especially by the motives which actuate human conduct, of which motives He is the sole author. He has so constructed our minds as that certain moral actions are pleasant or repulsive, approved or condemned by us, not without any exception (for there are perverted moral feelings), but approved or condemned by an incalculable and overwhelming majority of persons of every country, age, and state of civilization. And it is thus that the general government of God is carried on by the general constitution of the human mind itself. The free will of man has not produced these moral consequences. Man did not make his own natural passions or dispositions, though he often disorders them. We are speaking of the natural feelings of mankind at large, and their general approval or condemnation of human conduct; and we assert, that the awards of public opinion depend not on the caprice of man, but on the natural frame of mind which the Creator constructed; and the inference is just the same, whether man can govern his own volitions, or actions, or not: in either case, they are equally derived from the passions and feelings stamped on his nature and constitution.

It cannot be alleged, then, that such a constitution of things is the effect of human policy, of priestcraft, of governments, or conventional agreement. We could not have such influence over our natural passions as to produce this general opinion, otherwise than in accord with those natural feelings, that is, with our consciences, and the general sense of right and wrong, and the general issue of right as right, and wrong as wrong. Neither can the caprice or perverted feelings of some corrupt minds be alleged as an argument that such awards proceed from the will of man, not the plan of his Creator; for the instant recognition of these perversions of inclination, as *exceptions*, marks the rule to be general; and in all such cases, the conscience of the individual (if fairly consulted) would stand up against the bias of the feelings, and declare the rule to be universal, namely, *that virtue, as virtue, is ever to be approved; vice, as vice, ever to be condemned.* In this fact is contained briefly the moral system. But what is this but the moral government of God? What a strong indelible line of demarcation is this between good and evil, especially when we consider what an immense temporary advantage the evil may, under certain circumstances, produce, and how often it escapes all temporal punishment, but the dull reproach of a seared conscience. Strong, bold, high spirited men, cut off suddenly before their vices have had time to work their general retributive consequences,—such persons often sin with perfect impunity as to this world, and such examples occur every day; and yet this general distinction between right and wrong is not affected in the least by such examples, for it is indelibly engraven on the human heart by its Maker.

But I have said, this order of things extends beyond the mere approval of virtue and condemnation of vice. God has given incalculably solid advantages to the former, so that human nature not only approves the right, but has strong inducements to act rightly, even under very strong temptations to the contrary, and not only to act rightly, but to reward others for doing the same.

To confirm what has been said, there cannot be a higher authority than Butler's. And, I trust, that in the outset of so important a subject, I may be allowed to fortify myself by a long quotation from this excellent authority. "Every man (says he), in every thing he does, naturally acts upon the forethought and apprehension of avoiding evil, or obtaining good, and if the natural course of things be the appointment of God, and our natural faculties of knowledge and experience are given us by Him, then the good consequences which follow our actions are His appointment. Foreseen pleasures and pains belonging to the passions (that is to say, their ultimate consequences), were intended in general to induce mankind to act in such and such manners."

"Now (continues Butler) from this general observation, obvious to every one, God has given us to understand that He has appointed satisfaction and delight to be the consequence of our acting in this manner; and pain and uneasiness, of our acting in another, and of our not acting at all; and by finding the consequences which we were beforehand informed of, uniformly to follow, we may learn that we are at present actually under His government, in the strictest and most proper sense; in such a sense as that He rewards and punishes us for our actions. An Author of nature being supposed, it is not so much a deduction of reason, as a matter of experience, that we are thus under His government, in the same sense as we are under the government of civil magistrates. Because, the annexing pleasure to some actions, and pain to others, in our power to do or forbear, and giving notice of this appointment beforehand, to whom it concerns, is the proper formal notion of government. Whether the pleasure or pain which thus follows upon our behaviour, be owing to the Author of nature acting upon us every moment which we feel it, or to his having at once contrived and executed his own part in the plan of the world, makes no alteration as to the matter before us. For if civil magistrates could make the sanction of their laws take place without interposing at all, after they had passed them, without a trial and the formalities of an execution; if they were able to make their laws execute themselves, or every offender to execute them upon himself, we should be, just in the same sense, under their government then, as we are now, but in a much higher degree, and in a more perfect manner. There is no possibility of answering, or evading the general things here intended, without denying all final causes. For final causes being admitted, the pleasures and pains now mentioned must be admitted too as instances of them; and if they are, if God annexes delight to some actions, and uneasiness to others, with an apparent design to induce us to act so and so, then he not only dispenses happiness and misery, but also rewards and punishes actions. If, for example, the pain that we feel upon doing what tends to the destruction of our bodies (suppose upon too near an approach to the fire, or wounding ourselves), be appointed by the Author of nature to prevent our doing what thus tends to our destruction, this is altogether as much an instance of his punishing our actions, and consequently of our being under his government, as declaring by a voice from heaven, that if we acted so, He would inflict such pain upon us, and inflicting it, whether it be greater or less.

"Thus we find (says Butler) that the true notion or conception of the Author of nature is, that of a master, or governor, prior to the consideration of his moral attributes. The fact of our case, which we find by experience, is, that he actually exercises dominion or government over us at present, by rewarding and punishing us for our actions, in as strict and as proper a sense of these words, and even in the same sense, as children, servants, subjects, are rewarded and punished by those who govern them." (Analogy, Part I. chap. ii.)

But we have not considered yet the peculiar character of this moral plan or government, except in its broad and general distinction of rewarding virtue, and punishing vice. We must inquire in what repects we clearly ascertain the Creator's will, and what is the proper criterion of the moral plan or system.

The divine appointments may be ascertained by examining the moral constitution of our minds, for that is one part of the plan ; and by noting the constitution and course of external circumstances, the course of events in the world, or our own personal experience, which is another.

Of the type of this moral system, or the accordance within our own minds, Butler very justly observes : " It is manifest that great part of common language, and of common behaviour, over the world, is formed upon the supposition of such a moral faculty, whether called conscience, moral reason, moral sense, or divine reason ; whether considered as a sentiment of the understanding, or as a perception of the heart, or, which seems the truth, as including both. Nor is it at all doubtful, in the general, what course of action this faculty, or practical discerning power within us, approves. It is that which all ages and all nations have made profession of in public ; it is that which every man you meet puts on the show of ; it is that which the primary and fundamental laws of all civil constitutions, over the face of the earth, make it their business and endeavour to enforce the practice of on mankind, namely, justice, veracity, and regard to common good. It is manifest then, in general, that we have such a faculty of discernment." (Analogy, Dissertation II.)

"Now (says Butler) if human creatures are endued with such a moral nature as we have been explaining, or with a moral faculty, the natural object of which is actions, moral government must consist in rendering them happy or unhappy, in rewarding and punishing them, as they follow, neglect, or depart from, the moral rule of action thus interwoven in their nature, or suggested and enforced by this moral faculty, in rewarding and punishing them upon account of their so doing." (Analogy, Dissertation II.)

We proceed, then, to inquire how far this virtuous conduct is followed by the reward of inward satisfaction and external advantages.

"First: As a general rule (says Butler), far more easiness and satisfaction are the natural consequence of a virtuous than of a vicious course of life in the present state, as an instance of a moral government established,—an instance collected from experience and present matter of fact: and this, be it remembered, is a distinct thing from the approval of it by the conscience; for we might have approved of that which was right, but it would not follow, that which is right would generally give heartfelt satisfaction. In many minds it has lost this effect. Had there been no moral government, no reason can be assigned for right and satisfaction going thus hand in hand, except when the right gives us some immediate advantage; but right, as right, independent of the result, possesses this general advantage.

"Secondly: External advantages attend the virtuous and prudent management of ourselves and our affairs; and rashness, profligate negligence, and wilful folly, bring after them many inconveniences and sufferings. These afford instances of correction by the constitution of nature, just as the correction of children, for their own sakes, and by way of example, when they run into danger or hurt themselves, is a part of right education.

"Thirdly: From the natural course of things vicious actions are to a great degree actually punished as mischievous to society; and besides punishment actually inflicted on this account, there is also the fear and apprehension of it in those persons whose crimes have rendered them obnoxious to it in case of discovery; this state of fear being often of itself a very considerable punishment.

"Fourthly: In the natural course of things, virtue, as such, is actually rewarded, and vice, as such, punished, which seems an instance of moral government begun and established. That is, virtue may perhaps produce much present suffering, and vice much present pleasure; but the pain or pleasure, in this latter case, are produced by the result of the conduct, not by the character of the conduct, not by the virtuousness or viciousness of the conduct. Where the character of the conduct is considered, where it is known and exhibited, then the general rule holds good in most cases: virtue, as virtue, has its reward; vice, as vice, its punishment.

" Fifthly: All honest and good people are disposed to befriend honest and good men, as such, and to discountenance the vicious, as such: from which favour and discouragement cannot but arise considerable advantage and inconvenience. Let any one be known to be a man of virtue, somehow or other he will be favoured, and good offices done to him, from regard to his character without remote views."

" Therefore (says Butler), that God has given us a moral nature, may most justly be urged as a proof of our being under his moral government; but that he has placed us in a condition (as these instances shew) which gives this nature scope to operate, and in which it does influence mankind to act, so as to favour and reward virtue, and discountenance and punish vice, this is not the same, but a further and additional proof of his moral government. But it cannot be said, because virtuous actions are sometimes punished, and vicious actions rewarded, that nature intended it.

For though this great disorder is brought about by means of some natural passion, yet this may be brought about by the perversion of such passion, implanted for far other, and those very good purposes."

A material consideration remains. The Bishop very justly adds: "But there is also, in the nature of things, a tendency in virtue and vice to produce the good and bad effects now mentioned, in a greater degree than they do in fact produce them. For instance, good and bad men would be much more rewarded and punished, as such, were it not that justice is often artificially eluded, that characters are not known, and many who would thus favour virtue and discourage vice, are hindered from doing so, by accidental causes.

"Upon the whole, then, besides the good and bad effects of virtue and vice on men's own minds, the course of the world does, in some measure, turn upon the approbation and disapprobation of them, as such, in others. The sense of well and ill doing, the presages of conscience, the love of good characters, and the dislike of bad ones, honour, shame, resentment, gratitude,—all these considered in themselves, and in their effects, do afford manifest real instances of virtue, *as such*, naturally favoured, and of vice, *as such*, discountenanced more or less, in the daily course of human life in every age, in every relation, in every general circumstance of it."

" If any one (he adds) should think all this to be of little importance, I desire him to consider what he would think if vice had essentially, and in its nature, these advantageous tendencies; or if virtue had essentially the direct contrary ones." (Analogy, Part I. ch. iii.)

Will it be said that it could not have been otherwise, as nature is constituted, that virtue being generally advantageous, and vice the very reverse, these respective rewards or punishments would necessarily follow? This is the very argument we use to prove a moral government, viz., that the Creator has so constructed the world, that they are thus generally advantageous or injurious. But if by the objection it is implied that it could not possibly have been the reverse; that a constitution of things could not have existed, in which virtue should be generally injurious, and vice advantageous, it is untrue: there is no impossibility in the supposition, because, in many partial cases, we actually witness the existence of such a state of things; nay, even in regard to whole communities, it has been contended, by a very subtile and celebrated writer, that public virtue may be public ruin. We do not assert that the paradox is proved; but that it might require talent equal to his own to refute it, if his premises be adopted. This alone would shew that this reverse of the usual awards of virtue and vice was not impossible.

And with respect to individuals, the case is quite clear, that many millions have thriven and been happy for years in a course of demoralization; so the impossibility is out of the question. The human constitution might have been such, that a certain degree of evil, recognised by the conscience as evil, might have been universally, as it is sometimes partially and temporally, beneficial. We say then, these respective advantages and disadvantages could have been reversed, for in many instances they are reversed; the award of the inward principle, conscience, alone remaining the same. But, by the present constitution of nature, there is, on the contrary, a general accord between the various causes of human happiness and the inward sense of right and wrong; and none but an atheist can consistently deny that this order of things was ordained by the Creator himself, or, in other words, that a moral government is begun in this life.

We now proceed to the second assertion respecting the moral system, namely, that this moral government is incomplete and abortive if it terminates here. We need scarcely any other evidence than the general opinion of mankind in all ages, that there is nothing resembling a consummation of this or any other moral scheme in this life: some proofs, however, may be cited, shewing how frequently vice may escape punishment, and virtue lose its rewards.

That external advantages, and internal peace, though generally attendant on virtue, do not invariably accompany virtuous conduct, requires little proof. With regard to external advantages, it would be a useless occupation of the reader's time to prove that such award is very precarious, except, so far as some virtues, as industry, naturally tend to their own remuneration ; but this is true only of some virtues, and not of them either uniformly or proportionably. So far from prosperity always attending desert, it is proverbial that " one event happeneth to the good, and also to the wicked."

With regard to the second means of award— the favour of mankind, there are great exceptions to this general rule. It is an exceedingly partial and capricious remuneration. Some virtues are highly esteemed; some, which are evidently superior in moral worth, are held in low repute. If a person signally fail in some very questionable virtue, as active courage, he loses his character, let his other intrinsic virtues be what they may. If he has committed some kinds of sin, as a decided fraud, although he becomes an eminently virtuous character, there is no forgiveness in public opinion: his name is blasted for ever. These awards, and others of a like kind, prevent anything resembling a just and systematic retribution of moral worth.

A third means of moral award is, the effect of these respective qualities on the individual himself. But here also we discern, amidst the same general rule, sufficient exceptions to preclude any systematic award. For when a man has preserved his health and his property, that is, when he has been prudent, he may often be a decidedly vicious character, with little positive injury. His constitution may be peculiarly strong, and his circumstances prosperous; and these advantages may carry him, without suffering, through a long course of vice and considerable intemperance. But such prudence cannot be called a virtue; and if to this prudence be added a seared conscience, the man may be a notoriously immoral character, without any positive punishment from external circumstances, or his own feelings and reflections. He will not escape *negative* punishment, certainly; for he will lose all the sterling gratification derived from the cultivation of the higher propensities of his nature, from having neglected the proper sources of enjoyment, the pleasures of intellect, benevolence, and religion; but these being pleasures he cannot appreciate, the loss can scarcely be called punishment. And as he may be intemperate, so he may be unjust without positive retribution, if he takes care to steer clear of the statutes. "Experience shews (says Butler) that men can in a great degree get over their sense of shame, by professing themselves to be without principle; and, avowing direct villany, they can support themselves against the infamy of it."

It is said, indeed, that virtue is always its own remuneration, in the heartfelt satisfaction it imparts; vice its own punishment. This notion is (a universal truth) palpably false. That vice and crime are not always followed by positive punishment, unless prudence also is forsaken, is certain. Whether they would not generally be punished, if all the wicked lived to old age, is questionable; for although we sometimes see wicked old men die apparently with a stupid insensibility, yet we know not all they suffer mentally. But multitudes of the decidedly wicked are cut off suddenly, or in violent diseases, in the midst of their prosperous and happy courses, so suddenly as to preclude mental reflections. Many decidedly wicked persons are men of exuberant spirits, callous moral feelings, and enjoy life heartily to their last. The imprudencies are always their own punishment, but not the vices certainly.

The converse of this may not be quite so evident. Virtue is, certainly, rewarded by the constitution of the human mind, in a greater degree than vice and crime are punished. But we have no need to fear that the testimony to a future award, afforded by suffering virtue, should ever be withdrawn;—not only of virtuous people suffering a very large share of the afflictions common to humanity, but suffering for or on account of their virtues, not only from the persecution of enemies (for those cases are comparatively rare), but through their own forbearance, self-denial, or from what they endure from the contrariety of others, sometimes from their nearest connections.

There is one very material distinction always to be observed in solving the question, whether virtue be her own reward, and that is, the stage or progress that has been attained in what may be properly deemed a virtuous course. That course is begun when there is a systematic opposition to that which is known to be evil. Now such an opposition, from some strong motives, may commence in the heyday of youth, when the pleasures of an evil course may have been tried, and yet not to that degree as to become, in any wise, materially injurious, so as to counterbalance the pleasure: such an evil course in the commencement is generally, on the contrary, peculiarly delightful and intoxicating. Now a steady opposition to this progress must be so difficult, and require such a painful struggle, that it may be questioned whether those persons who have unhappily gone so far, are ever entirely reclaimed, except through some severe suffering. In such cases, then, as these; in such a stage of her progress, it cannot be contended that virtue is its own reward, and the individual may be cut off before the happiness of a virtuous course is experienced. But there is, perhaps, scarcely an instance where a steady and decisive principle of virtue has been obtained, but after several failures and backslidings, not only in conduct, but even in principle;

and yet there has been, on the whole, a progress in virtue. But during this struggle, the mind is in a state far removed from happiness. When the principle is fixed, either for good or evil, there is a comparative calm. If for a virtuous course, the happy consequence is then soon experienced; but how many millions die ere that painful contest is over, and the virtuous principle is thus fixed and triumphant.

"Suppose (says Butler) a person with passions inflamed, his natural faculty of self-government impaired by habits of indulgence, and with all his vices about him, like so many harpies craving for their accustomed gratification; who can say how long it might be before such a person would find more satisfaction in the reasonableness and present good consequences of virtue, than difficulties and self-denial in the restraint of it; yet such a reform would require great self-denial, and be highly virtuous." There is, I repeat, another case where the trial is, perhaps, as difficult, and the reward not appreciated, where the conduct has been remarkably virtuous. Young persons who have never known the natural and common ill consequences of a sinful course, and, therefore, have not that motive to shun it; steadily pursuing a virtuous course, have a present reward certainly, but it is one of which they are not fully conscious. And if at the same time they be taunted for a coldness of feelings, and their virtue ascribed to a want of temptation; and if, with all this, temptations should come, and yet be steadily resisted, as they are in thousands of instances, this is an example of painful virtue, which is more difficult, perhaps, than the most persevering struggle against vice, when its evils are known and have been experienced.

I will briefly repeat the argument. It has been contended, that all this and other instances of self-denying restraint, or of active benevolence, is really rewarded in that state of mind which results from the proper exercise of the higher principles of our nature. That in old age, especially, when the usual resources of sin generally fail, then the blessed peace and serenity consequent on a virtuous life, is almost sure to be felt. Now, granting that this is invariably true, when the reform is so complete and established that virtuous pleasures are appreciated, yet thousands of reformed persons are cut off before their self-restraint is habitual and no longer galling; and before they are in that calm frame of mind that enables them to enjoy the quieter pleasures of virtue. It is to be feared, that the number of those who have from infancy cultivated the higher and better propensities of their nature only, and who *must*, in consequence, be generally happy, is comparatively small indeed; but the multitudes who have gone astray do not experience that their virtuous struggle for reform immediately yields the reward of virtue: failures occur—a war within is maintained, and the beautiful calm of a well balanced mind is not generally experienced till there has been a long contention with evil: but ere this, thousands who, because of their sincere endeavours for reformation, are truly classed with the virtuous, are carried off in the midst of the warfare. We do not say that no comfort is experienced, but that it is interrupted and alloyed; and while it is thus unsatisfactory in itself, it hinders the enjoyments that unprincipled minds allow themselves without scruple or pain. On the other hand, where there has been prudence, the conscience may be so torpid, the decline of life so easy, the nerves so strung, that wicked men may comfortably sleep out the evening of their days, and sink into death with the serenity of lambs. These are a few of the proofs that virtue is not its own reward. We infer, therefore, there is a moral government begun, but certainly not completed in this world.

But there is one circumstance to be added, which will probably be considered as conclusive, which is, that to constitute a moral completion, this reward must be *invariable*. But if, as we have seen, there be so many exceptions to the general rule, and the *award*—that necessary consummation of a moral government—be so often evaded, we may justly say, that this moral government, if it terminate here, is incomplete and abortive. Yet nothing could have been easier to our apprehension, limited as it is, than that this moral government should have had a completion here. By a small variation in the constitution of things, temperance might always have produced health; industry and honesty procured riches; and human tribunals invariably awarded (as a good father does) according to real moral merit. The Creator of all our faculties, and the Governor of all events, could have easily so constituted our minds, and so constructed the earth we inhabit, that without any restraint on the will, the award in all cases would naturally and proportionably attend the desert. It is not man's caprice that prevents such a consummation, but the structure of his mind, and the constitution of the world around him.

We may now draw two inferences from the evidence which has been briefly examined.

First: We obtain a confirmation of the negative evidence in the preceding chapter. We have in these facts, I think, additional testimony, that no moral scheme of any kind is completed in this world. It is not a scheme of mixed or limited enjoyment, and it is not a scheme in which any moral conduct is followed by such corresponding result that, if it terminated here, we could say it was a moral system completed. But this is a great point to have ascertained, if we could go no further; for it is incredible that, while the physical world is so admirably and completely systematic, a Moral Being should have lavished all this consummate skill on a scheme of morality, if it can be called a scheme, terminating in nothing but irregularity and confusion.

But, secondly: We have ascertained that, amidst all this irregularity, as far as regards award and completion, there is a system begun. That, notwithstanding these exceptions, the Creator has put a marked and essential difference between virtue and vice, and thus, as Paley observes, has shewn which side He is of. The general facts stated by Butler are incontrovertible; for the striking distinction that virtue, as virtue, has always an acknowledged superiority—vice, as vice, held in general reprobation—this alone marks a moral plan, as far as respects those qualities. It also accords with that plan, that the *general* course of external circumstances is favourable to virtue. And it is a very striking confirmation of it, that virtue naturally produces a calm, peaceful, happy state of mind, and a healthy state of body, and vice the reverse; and lastly, that conscience, an internal principle, *sui generis*, entirely accords with these awards. Now as there is, unquestionably, some plan in every department of the works of the All-wise Creator, the conclusion is naturally this: that the Creator has thus indicated that his moral creatures should obey the dictates of virtue, and shun those of vice, for some end or purpose. No end or purpose is fulfilled here, except partially and imperfectly; for this, his implied will, is perpetually contradicted, and no regular retribution or result follows these infringements. That is, this plan is not finished. If all the evidence terminated here, we might justly conclude that there will be some future completion to this plan. But we have other and kindred proofs to the same effect; for it is not only a system of moral government begun, but of moral discipline or education begun: both begun, neither completed: both implying some termination in a future state.

SECTION II.—*Proofs that the Moral World is a System of Moral Discipline abortive, if it terminate here.*

THIS position, though closely allied, is not identical with that which has preceded it; for a moral government does not necessarily involve all the discipline which we experience here as moral beings. A moral government does not imply a discipline in the knowledge of the various subjects which exalt us as moral creatures; neither does it imply discipline in any of those virtues which raise us above the moral condition which is fitted for this state of existence. But the moral discipline under which the providence of God has placed us, comprehends much more education than is necessary for a moral system adapted to this world only. It is for this reason that I have divided this kindred subject, and placed it under a different section. The assertion, however, is the same with respect to both the government and the discipline. It is discipline appointed by our Creator himself; and if it terminates in this life, it is incomplete and abortive.

I have purposely adopted the word discipline, instead of trial or probation; because the former term is equally applicable to our state, either under the hypothesis of necessity or of free choice: whereas the term trial or probation is entirely inconsistent with the theory of necessity. That cannot be a state of trial whose issue is foreknown and predestinated by the Judge, while every thought and act of the agents themselves is equally predetermined; but it may be strictly a state of education or discipline,—words equally applicable to our condition under the most entire freedom of choice, and therefore in every respect preferable, unless it had been the purpose of the writer to build any portion of his proof on a contested alternative.

The moral discipline which we undergo in this life is of three kinds. We are disciplined in *knowledge*, and in *prudence*, and in *virtue*.

There is in many cases an identity between the three kinds of discipline. For when the two former enjoin and demand self-denial, temperance, perseverance, laborious exertion, and other virtues, as they do in most cases, they carry on the discipline of virtue. The end in view may not be moral or virtuous; perhaps only some selfish gratification may be sought, or the motive may be neutral; still self-denial, and temperance, and persevering labour, constitute discipline for virtue. The mind that is exercised thereby, though not virtuous at the time, is often so trained and advanced, that when worthy motives are implanted, when a right principle succeeds, a great deal has been gained by the temporal and worldly portion of the training.

For these reasons I have considered the proof arising from moral discipline as comprehending things in part temporal. This species of discipline, therefore, though in part a temporal discipline, as indeed is virtue itself, yet does it decidedly, though indirectly, appertain to what I have called the moral system, as that does to a future state.

First: In respect to our discipline in *knowledge*, there are strong indications that such discipline is intended not only for our temporal, but our eternal benefit.

It would be easy to conceive that human beings had been so constituted as to live (accident apart) to a certain age, and then die; for many organized creatures are so constructed. It is not very difficult to imagine also that men were able to acquire a certain degree of knowledge and experience in worldly things speedily, but never to exceed that degree; because this is nearly the case with persons of imbecile intellect. There might therefore have been such a limitation to the highest intellect, that it would be palpably impossible to acquire more than a certain quantum of improvement in knowledge, just as it is impossible now for human minds to penetrate into certain mysteries.

Now had this been the case, and all men lived, say till seventy years of age, and then died, and acquired all the knowledge in the first thirty years, this would have been an order of things that, in itself, would have afforded no indication of a future state. I put this chimerical case, to shew the contrast of the actual constitution of the human mind. We are disciplined (I speak of civilized man especially, because he is in the most natural state, that is to say, a state *to which nature works*) in knowledge of various kinds: throughout the whole of life, individually and collectively, man is *in statu pupillari*. Generations of schoolboys succeed each other. Man is learning the arts and sciences: he is improving as an intellectual being; he is acquiring a knowledge of the world and of himself, and especially of the works of his Creator, even from infancy to the most advanced age; and the more he learns of all these things, the more he perceives that he might learn if he had time and health: that there is no limit to his proficiency in these most useful and ennobling acquirements, while he retains his faculties. Does any one question the moral worth of general knowledge, and its bearing on a future state? Let him draw a comparison between the intellectual state of a Newton, a Bacon, a Locke, and that of a virtuous and religious child, or a converted savage. It is true we have reason to believe that the Almighty values the humble obedience of a pious though uncultivated mind, far beyond the highest acquirements of intellect. But can we imagine a heaven entirely destitute of highly intellectual souls? We cannot. That virtue ranks above knowledge, does not render the latter indispensable to our ideas of high spiritual happiness hereafter. Now of this knowledge we find that we have powers of acquirement infinitely great; but excellent as it is, our portion of it is little more than enough to give us a sharp appetite for more.

That man's faculties and desires for further advancement decay in old age, is surely no counter evidence to this assertion. As fever or other illness, and death itself, limit his capacity of mental improvement, so does bodily decay, because it affects or destroys the mind; but this is not a criterion of the capabilities of mind in its sanity and integrity. When we are speaking of the powers of the mind, we mean not the infantile, not the sick, not the decaying, not the dying, but the sound mature mind; and of that we may assert, that if man lived for ever he might be continually advancing in that knowledge of which he obtains a certain quantum here. And the more man acquired the more fitted he would be to live and enjoy his existence; the higher he would rise in the rank of rational beings. The same cannot be said (as might possibly be objected) of the other pleasures of life, except the social and religious affections; the various other enjoyments permitted to man, begin and end with their season—are mere passing solacements. But just when the aged *learner* has acquired the degree of this useful and enlightening *knowledge* which best qualifies him to live and enjoy life properly, the thread is snapt, or infirmities clog and oppress the mind, and he is richly laden but to founder. What is the inference?—That the human faculties are capable of a progressive improvement in acquirements adapted to an intellectual existence, to which capability of improvement no limit can be assigned: that the present state affords no scope for their full developement and exercise: and that, as in no other case are faculties given superior to the sphere in which the being is placed—the powers and the scope being *invariably proportioned* to each other—we infer naturally and justly the reality of that future state.

> " ——To love and *know* in man
> Is boundless appetite and boundless power,
> And these demonstrate boundless objects too ;
> Objects, powers, appetites, Heaven suits in all."
> *Young*, Night VII.

But the lifelong pupil is not only disciplined in knowledge, but in the power of making a good use of it. He is disciplined in the *prudencies*, by which term I mean the pursuing all that promotes our temporal good, divested of any motive but this temporal good, and apart from considerations of duty.

To call the self-restraints of prudence virtue in such cases, would not be speaking correctly. To constitute virtue, there must be some regard to the duties we owe to God, or to the welfare of our fellow-creatures, and such regard is generally mixed in the mind, when it exerts or restrains itself; but still there is a vast deal of good done in the world, and much moral good acquired, of which temporary self-interest is the sole stimulus. Now this prudence is in fact a most essential part of the education of man as a rational and social being, and as an heir of eternity. If these prudencies are not virtues, they call forth occasionally strong self-denial and laborious exertion, both which tend to discipline him for virtue.

Where there are not higher motives, these are the means of raising man from the most degrading state. And when it is considered how few are principally actuated either by a sense of religion or duty, it is, I fear, pretty evident that a large portion of right conduct has its origin in the prudencies; and if so, the moral importance of this part of our nature is unquestionable: this, then, is another part of our moral discipline. The motive, though not virtuous, may not be bad: it may be of negative morality; but the pain is incurred, the good habit is acquired, and, I repeat, the man is prepared, when a virtuous motive is implanted, for a much higher station in the scale of real virtue than he would ever attain, had not such stimuli preceded a course of real virtue. But such proficiency is a work of time, and ever imperfect where higher motives do not supersede and actuate the mind. It is not by experiencing a little evil that men leave an imprudent for a prudent course; not by finding once or twice that imprudence brings suffering; not till after the conviction is impressed on the mind again and again; often through so much punishment that the reformed individual never reaps the fruits of the discipline, for he may have erred beyond temporal reparation. Nor in ordinary cases are fixed prudential habits often acquired before the age has disqualified the individual to enjoy the very pleasures for which these prudencies are especially wanted.

What, then, is the result of all this prudential discipline? When the aged pupil is well stored not only with the knowledge that makes life desirable, but with the self-command and the disposition which would turn it all to rich account; when, in short, he is most fit to live and enjoy existence, the thread is snapped, or sickness or decay render him unable to profit by all the experience that he has been accumulating. Now this is a strange constitution of things, and bears no analogy to the nice animal adaptations of nature, such as the instincts and passions of brutes; in all which the faculty and power are imparted in order to be used, and the whole benefit is invariably experienced. But here the benefit is the greatest, when the power to profit by it is gone.

Self-restraint, and active and painful perseverance to acquire prudence and knowledge, is apparently the most important business appertaining to this life. But according to this view of these important acquirements, they are only commenced here, and have no completion whatever. They are a fragment of a system which, unless we premise a future state, belongs neither to this life nor another; and, as such, infinitely inferior to instinct, which is a perfect provision for all its ends. Bestial nature is perfect as regards its end, and the rational system is alone unfinished. The physical system is thus superior in plan and purport to the rational system, if the latter terminates here. If so, man is tutored from infancy to hoar hairs for nothing but the worm. But why?

> "Why freighted rich to dash against a rock?
> Were man to perish when most fit to live,
> O how mispent were all these stratagems
> By skill divine inwoven in our frame!"
>
> *Young*, Night VII.

And if we infer this want of completion in the moral plan, from such parts of our nature as have much ostensible use and purport in this life, what shall we say of the portion of the moral system which relates more especially to the future; I mean discipline in *Virtue?* This may be properly distinguished from religion, because although now rarely separated, yet before a true revelation was generally promulgated, virtue and religion had not that close connection that they have now. Yet were there great and signal virtues under a general and indefinite sense or consciousness of duty to some superior Being. We may therefore separate these acts and dispositions, and this sense of duty now, by affixing to the term virtue all the good that is not inseparably connected with the tenets of some real or supposed revelation. This is a mere arbitrary division; but it will not affect any facts, while it will enable us the better to classify and distinguish them; the subject of religion following in its course.

On the important subject of human *Virtue*, one or two preliminary points require to be considered. We have seen what Butler has said upon the marked distinction between virtue and vice, as principles of God's moral government. But it is necessary to enter somewhat more particularly into the nature of virtue and vice, as constituting the principle of discipline or education for a future state. We must consider not only the appreciation of good and evil in the common sense of mankind, but the real moral worth of this popular estimation; not only the consequences of virtue here, but the legitimate grounds on which we may hope for its reward hereafter. We must ascertain that such virtue has an intrinsic merit, before we can infer that God will reward it hereafter.

It would probably have surprised the good and penetrating mind of the Bishop of Durham, to have heard that an opinion would to a certain degree prevail, that there was really no such distinction as he has described; that there never had been in the sight of God any other distinction than Christian graces, and sins more or less base or splendid. Where the gospel is known or rejected, he would doubtless have admitted the distinction to be perfectly just. Every Christian minister is bound to inculcate, in the most decisive manner, the worthlessness in the sight of God of any good natural dispositions, or any self-denial or benevolent exertions, not accompanied by Christian principles.

But this is very different from the position, that where the revealed will of God could not be known, there is no virtue: that all is sin more or less reputable; that there is nothing in the moral world but unmixed evil. Such an opinion is in truth not only erroneous, but, however good the intention, it is a libel upon the works of the Creator. We will assert that there has ever been a mixture, aye and a large mixture, of absolute intrinsic virtue, at least in the postdiluvian world: that even the act of Regulus, and the supposed act of Quintus Curtius, and of the self-devoted at Thermopylæ, were not sins, but virtues. They believed these acts of self-devotion to be right, and they had no better guide than their natural understandings and feelings. They endured horror, torment, and certain death. They who, forgetting the self-denial, speak only of the pride of these acts, and call them splendid sins, are confounding the virtues these persons possessed, with the motives which they could not have. In a professed Christian, no conduct can be called good or virtuous, but what is founded upon Christian principle; but to term an act of severe suffering followed by certain death for a motive believed to be right, a splendid sin, is a perversion of language, or a confusion of ideas.

That the desire of reputation or glory might be the governing stimulus, is very probable; for the heathen were not taught to deem such glory wicked, but on the contrary most commendable. We are not to suppose that no self-qualification of any kind mingled with their patriotism; but it would be a poor unworthy reflection on the Christian martyr, that he did not die solely with a view to the glory of God and the furtherance of the faith, but that he had also the inspiring hope of a heaven for himself. Such a mixture of personal gain does not in the least sully the glorious praise of the noble army of martyrs. Nor is the love of an honourable reputation in a heathen so base an alloy as to turn such devoted self-sacrifices into sins, especially when we consider that he had no stimulating assurance of another life. I have been compelled to make these few remarks on some prevailing opinions, because, were this world such a pandemonium as it is sometimes represented, we could not deduce from its moral phenomena any natural inference whatever. All morality would be confounded; the attempt to estimate intrinsic right and wrong utterly vain; and all natural evidence deduced therefrom nugatory. That such views of the subject are founded on passages of Scripture is probable; but it is by detaching them from the scriptural application, and quoting them as if they had no limitation at all.

There is one passage in Scripture which is certainly incapable of limitation, and which alone confutes such an interpretation of the rest. Of course it is only quoted here as explanatory. "There was a certain man in Cesarea, called Cornelius, a centurion of the band called the Italian band: a devout man, and one that feared God, with all his house, which gave much alms to the people, and prayed to God always"—to whom the angel said, "Thy prayers and thine alms are come up for a memorial before God." *Acts* x. 1—24.

It is not implied by this quotation, that Cornelius was in the same spiritual state, and equally acceptable to God before as after his conversion. There is no doubt but when St. Peter says, "In every nation he that feareth him is accepted with him," he did not mean accepted to final salvation, but to admission into the Christian covenant; but this does not annul the inference from the positive declaration, that this heathen's mind and conduct, while he had no better instruction, was regarded with the Divine favour, and accepted "according to that he had."

I have said that where the gospel is known, no virtues founded on natural principles can be deemed virtues in the sight of God. There is a further admission on this subject required. No human virtues, under any circumstances, *deserve* such a state of future happiness as mankind have looked to enjoy under every dispensation. This is true even respecting the Christian graces, to which there are attached such high rewards; for those rewards are not represented to be "of works, but "of grace;" not a remuneration, but "a free gift." We have no authority, therefore, revealed or implied, for considering that the best conduct of the best man is entitled of justice to everlasting life; and in thus admitting that virtue could claim no such reward from the Creator's justice, it is far best to place our hopes of the future award of virtue on the only solid foundation. We believe that it will be followed by happiness in another life, not because of its own deservings, but because, as Butler states (chap. ii. sect. 1.), the Creator has unequivocally placed his moral mark upon it, by ordaining that, as virtue, it shall be respected, favoured, loved, and prospered; whereas directly the reverse is his stamp upon vice,—because, in connection with these distinctions, he has marked it with the approbation of that conscience which has most appropriately been called "His voice within us," and, therefore, has an intrinsic moral worth; yet we find that, notwithstanding this *His* marked approval, it is *often thwarted by circumstances, and sometimes leads to temporal evil, sometimes severe suffering, sometimes death.* It is for these reasons that we justly infer that virtue here will be followed by happiness hereafter. Virtue, then, having a substantial reality, and such being the strong distinction of the Creator himself respecting it, and such its temporal condition and uncertain award, I would proceed to the proofs—that the present is a state of discipline in this virtue, and that this discipline is commenced here, but not finished.

Before we examine the many exceptions that there appear to be to a systematic discipline of virtue in this life, it is right to remember that exceptions to general rules appear to run through the whole of nature. They occur in the physical world, as well as the moral; and in neither are they considered to invalidate a well authenticated general rule, but proverbially confirm the rule. There is another very material consideration in speculating upon the designs of the Almighty. We are apt (as Dr. Macculloch truly observes) to look for that simplicity which we admire so much in human contrivances. We forget that the Creator works by both principles; sometimes producing complex ends by simple means; sometimes manifesting the most unbounded complexity of means, as if to shew the rich resources of his power and skill. If we had to contrive a state of discipline in virtue, we should doubtless make it as uniformly and systematically such as a regular school: but the Creator has infinite resources that we know not of, to rectify and compensate for all apparent irregularities. He may have ordained an award that meets all stages of discipline, although we could not draw the plan of that award. I do not infer from this that we are not to judge of the character of a state by what we see and know; but finding a character which suits the general phenomena, we are not to consider it doubtful because there are such exceptions as we should not have made in such a system.

Paley thus speaks on the fitness of this life for the exercise and discipline of virtue: "In the wide scale of human existence there is not, perhaps, one of its manifold diversities which does not bear upon the design here suggested, viz. moral probation. Virtue is infinitely various. There is no situation in which a rational being is placed, from that of the best instructed Christian, down to that of the rude barbarian, which affords not room for moral agency, for the acquisition, increase, and display of voluntary qualities, good or bad. Health and sickness, enjoyment and suffering, riches and poverty, knowledge and ignorance, power and subjection, liberty and bondage, civilization and barbarism, have all their offices and duties: all serve to the formation of character. A West Indian slave who amidst his wrongs retains his benevolence, I for my part look upon as amongst the foremost of human candidates for the rewards of virtue. The kind master of such a slave, that is, he who, in the exercise of inordinate authority, prefers in any degree to his own interest his slave's comfort, is likewise a meritorious character, but still he is inferior to his slave. All, however, I contend for is, that these destinies, opposite as they may be in every other view, are trials, and equally such. The observation may be applied to every other condition; to the whole range of the scale, not excepting its lowest extremity. Savages appear to us all alike; but it is owing to the distance at which we view savage life, that we perceive in it no discrimination of character. I make no doubt but that moral qualities, both good and bad, are called into action as much, and that they subsist in as great a variety in these inartificial societies, as they are or do in polished life." (Nat. Theol. ch. xxvi.)

Paley was a cool discriminating observer and thinker, and his evidence on this point is valuable: for it has probably struck most reflecting minds, that there is apparently less of moral discipline or trial than might have been expected in a world apparently constituted for that purpose. It is necessary, therefore, to examine this point somewhat more minutely.

Some cases appear to be more particularly inconsistent with a state of moral discipline, viz., the death of so large a portion of mankind in infancy; the existence of idiotism and madness; the generally low moral state of a vast portion of mankind, both in civilized and savage countries; the promiscuous death of hundreds by battle, shipwreck, or other catastrophe; and the sometimes protracted sufferings of the good, and the short trial of the wicked. Now, looking at these cases in the aggregate, one circumstance will form a general answer to them all, viz. that it is not asserted or supposed, that this is a state of *completed* discipline. This makes the cases at most only *negatively* objectionable. For if it be (as it is in many cases) a system of discipline commenced only, then the number and variety of particular instances in which it is incomplete, may be greater than we should expect, but is no objection to the *principle*, to the system itself. In the first place, the very considerable number of such cases is evidently no objection. He who can find some appropriate continuation of existence in *one* such case—in the case of one infant dying, one idiot continuing such—can certainly provide equally for *any possible number* of such cases. And in respect to the nature of these cases, seemingly so inconsistent with any future award, we see the difficulty as connected with our resources and conceptions; we forget that the completion of this scheme is in the hands of Him who invented water and light. He who formed the human mind is not pressed for resources to renew it appropriately. No human faculties, however expanded, could have conjectured that there could have been such a world as *this*. He probably has, as we infer from similar bodies in the heavens, millions of somewhat similar systems in his hands. We are never more sure to err than when we limit His resources by our own. It must be equally easy to him to contrive other preparatory schools for various degrees of virtue, or to provide some final award adapted to all. We have but to discern the real nature of His beginnings, and we need not fear but he will be able to devise their appropriate consummation.

But this consideration of the facility with which the Omniscient and Omnipotent can overcome apparent difficulties, does not preclude the necessity of our own investigation. One reason for the apparent inconsistency of casual death with discipline for a future state, is thus stated by Paley: "It seems expedient that the period of human life should be uncertain: did mortality follow any fixed rule, it would produce a security in those that were at a distance from it, which would lead to the greatest disorders; and a horror in those that approached it similar to that which a condemned prisoner feels on the night before his execution. But that death be uncertain, the young must sometimes die as well as the old. Also, if deaths were never sudden, they who are in health would be too confident of life. The strong and the active, who want most to be warned and checked, would live without apprehension or restraint."—(Nat. Theol. ch. xxvi.)

I have said the discipline is often but just commenced. But the discipline that is imperfect is still discipline, however little advanced or abruptly broken off, and is properly so called. In this point of view the death of infants is a circumstance entirely neutral. If *all* that takes place in such a state bears that character, and is working to that purpose, the nature and character of the state is determined by that fact. This discipline commences with the earliest years, and in millions of cases is apparently completed, that is, when the character either for good or bad is decidedly formed, and nothing different in character is aimed at or acquired. And, as Paley observes, we are apt greatly to undervalue the moral acquirements of many, especially of savages. In that interesting volume of Mr. Williams, called Researches in Polynesia, are very striking confirmations of Paley's remarks. When these savages by their conversation made their character understood, they appeared to possess not only as good intellect as the generality of Europeans in the lower classes, but exhibited the same passions and the same varieties of character as are found in every village of Great Britain. I think the average even of our more religious poor scarcely exhibits so much mind, and certainly not such strong religious feelings. If all savages have not their moral capabilities exhibited or called forth to the same degree, that does not alter those moral capabilities, but only their exercise in this life—that is, in a state of imperfect discipline. But perhaps we are not less liable to underrate the moral and intellectual capabilities of our own poor. There is in one of the *Noctes* of Blackwood's Magazine, a passing remark on the graves of an old couple lying quietly together in a country churchyard. I cannot find the passage, but it is intimated (though not seriously, of course) that John and Sarah, having finished their earthly course, for which alone their poor contracted minds were adapted, might as well continue there undisturbed. The reader is startled into a momentary endurance of the suggestion, till it is considered that the very same minds, under other circumstances, might have been not only highly refined and cultivated, but that they might have materially influenced the affairs of the world. John might have been a Buonaparte, Sarah an Antoinette Maria. And their passions and affections, their moral principles, might have been tried by some of the most acute sufferings and enjoyments human nature has ever experienced. In such a case we should not doubt that they were proper objects of future reward of some kind or other. But the minds, the feelings, the capacity, were the same; only they were not equally drawn out and exercised. Now, this comparative discipline constitutes only a difference in degree of the developement of certain minds: it impugns not the general system. And the very same reasoning may apply to the case of deceased infants. Had they lived, and all their mental and moral capabilities been called forth, we should have seen in all cases the propriety, the fitness, of some future destination and award. But the mind, the passions, the moral capabilities, are in an infant what they are in the man: circumstances have developed them in the latter case only; but there they are ready for developement (even if we suppose them material) in the babe of an hour old.

As to the means by which they can be drawn forth in a future state, again I would observe, that we may leave that to the resources of the Ruler of all nature. To doubt his power or skill, would be absurd indeed in any thing but impossibilities, aye, even in what we should have deemed impossibilities, because such skill has been exhibited.* Still if it could be proved that the state immediately after death required a full preparatory discipline here, the objection to this character of the present state would be insuperable. But on natural principles we might as rationally look for several different states of commenced or continued discipline, as one such state; and it would be presumptuous indeed to deny that the Creator could ordain a final state suited to all stages of discipline, and even to cases in which it is not commenced. On neither principles, then, is full completion of the system necessary to the proof that we are in a state of moral discipline.

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* See Dr. Macculloch on Light.—Attributes of the Deity, ch. xxxvi. p. 365.

We certainly cannot conceive a mode of expansion for an infantile mind different from the growth of the bodily organism, yet producing a corresponding result; but our evidence being quite independent of the physical phenomena, it is not affected by a difficulty entirely arising from our ignorance of physical phenomena of any kind, except as exhibited on this our little planet. We do not even know what our mind is, whence it comes, or how it acts; much less then can we rationally object the difficulties of its progress in an unknown state. I repeat, we may trust Him who has formed the present miracles of physical creation, to effect corresponding miracles in other worlds.

Idiots and madmen are beings with their natural faculties either distorted or diseased. We may also confidently leave the mode of their cure in the hands of the Great Physician: he has only to will, and the mind, whether a material or spiritual substance, becomes perfectly sound. The evidence arising from this part of the subject is taken from the general character of the present state, and this is not altered by the few limitations and exceptions. There are such throughout all nature in every department. Again: The case of protracted suffering of the decidedly virtuous is easily solved. No one is so purified as to render such fiery trial useless to himself; but if he were, his example of patience would be still wanted to confirm others, and, above all, to convey the lesson so difficult to learn, that "man in his best estate is altogether vanity." The cases of short trial to the wicked, which have such a striking monitory effect on others, come under the general head of imperfect and incompleted discipline. It is only another instance of the case of which premature deaths are common examples. It is in accordance with the view here taken of the nature and purport of this life, viz. moral discipline *not completed*, but begun. And unless we can assign an adequate reason why the Creator would necessarily complete a system in this stage of existence, which system actually involves at least one other state of existence as its consummation, the objection of its incompleteness falls to the ground.

These apparent exceptions, then, to the fitness of this state for trial or discipline (valid, if the discipline must needs be perfect) are no objection, since it is admitted to be incomplete, and since it is clear that all that is begun is more or less discipline. But as these and other difficulties (strange if there were none!) relate to the present state chiefly; so there is one objection sometimes urged which principally respects the future. It is asked how evil, and temptation, and pain, can prepare a soul for a state in which there is nothing of the kind? Now this objection implies a greater knowledge of a future state than revelation has given us; for we are told that the angels fell under temptation. And the argument itself is quite irrelevant, unless it could be shewn that such creatures as men, born with so great a mixture of evil in their nature, could have that evil eradicated, and virtuous principles and habits implanted, except through trial, temptation, suffering. Let it be proved that this change could be wrought by a temporal state exempt from evils and sufferings, and then it may be acknowledged that the pain and temptations are not the proper preparations for such a being as man to enjoy such felicity as he hopes for hereafter.

Before we finally conclude that this is a state of moral discipline, it will be well to recur once more to a former point, viz. whether virtue, being in general its own reward, and therefore our temporal interest, we have no reason to expect a further recompense in another state.

That virtue was its own *invariable* reward, would certainly be an objection to the position in the preceding section, that the moral government of God has no completion in this life: but the reasons which were there assigned have probably been sufficient to shew that virtue is not its own reward, and repays the self-denial it requires only when the appreciation of its pleasures is acquired, the principles decided, and habits fixed: that millions are cut off in the midst of their virtuous contention against evil, ere this recompense is felt; that a still greater number are cut off in the full and intoxicating tide of a wicked prosperity; and that multitudes have such strong nerves, and acquired such a hardened state of moral feeling, as to live to an old age unscathed by a long course of dishonesty or intemperance. These are facts quite sufficient to prove that virtue and vice have not their invariable recompense here. But although this truth is very necessary to prove that a moral government is not completed, yet it is not a necessary condition of a state of discipline in virtue, that it should have no regular reward; on the contrary, it is rather a proof than an objection to a state of moral discipline, that there is a self-rewarding power in virtue. Although all the awards in this life are disproportional and precarious, yet it is equally true that *confirmed* virtue, *when life is spared*, generally brings a rich reward: nor do we on that account hope the less reasonably for a continuation of that happiness in future. For a future life of happiness is, under all circumstances, a boon, not a debt (except from a promise given or implied), and therefore not to be expected on the principle of remuneration, but from the wisdom and goodness of the Creator, and because this remuneration is so precarious, and its enjoyment so short. It is by no means necessary, therefore, that, in order to hope for that final happiness, we should suffer any more than is necessary to fit us for that happiness. On the contrary, the more a person felt the satisfaction to be derived from a consistent course of virtue, the more he would be fitted for that state in which virtue and felicity are entirely identified. Thus, while we infer that the moral government of God is not completed, because there is no certain moral award in this life, we also infer that life is a state of discipline in virtue, because it is ultimately experienced that her ways are ways of pleasantness and peace to all those who are decidedly walking in her paths. In the first case, some future retribution or consummation is necessary to complete the design. In the last case, the enjoyment of virtue, always too precarious and interrupted to interfere with the preceding conclusion, forms a part of the discipline: for man can scarcely be called decidedly virtuous till he has acquired a relish for virtue.

What has been hitherto observed upon the subject of discipline in virtue, has been in answer to certain objections to such discipline being the intent and purpose of the present state of our existence. These objections were stated first, that the evidence may be unincumbered. Lastly, it is necessary to inquire what it is that properly constitutes discipline in virtue, and whether the process of moral discipline corresponds with the actual phenomena of life;—whether men are thus morally improved.

It is not a point of argument, but a fact of experience, that human beings are born with a twofold moral nature; a class of propensities that are bad or wicked, and another class of propensities that are virtuous or good. It is not necessary, in this inquiry, to enter into the question, why they are respectively such, or what constitutes the peculiar evil or good of their character; much less to enter into the province of revelation, and explain how there came to be this contrariety in one mind. It is sufficient, that it is a fact of experience, that we are born with these good and evil passions and propensities: on the one hand, hatred, envy, covetousness, pride, indolence, sensuality, falsehood, dishonesty, &c.; on the other, charity, benevolence, forgiveness, industry, temperance, chastity, honesty, veracity, &c. Of these and other good and evil dispositions, human minds are, by nature, so diversely compounded, that there is almost as much variety of character produced by the mixture, as if formed by permutation, like the changes of the letters of the alphabet, or the notes in music. One man has, by nature, a large portion of the good, and a small share of the evil tendencies; another quite the reverse; in another, they appear nearly balanced; in another, some strong passion predominates, good or evil; in another they are all weak; in another, they are all strong. The disposition of some is so beautifully tempered by nature, that they exceed, in actual positive good, that degree which others attain only by the efforts of great self-denial, under religious principle. Some are quite the reverse, and exhibit, from infancy, such evil dispositions, that it requires the effort of a life to bring themselves to that standard of actual good which others naturally possess. I believe these, as general facts, cannot be denied; a critical dissertation is not required. Now, under these circumstances, let us suppose that it is the will of the Creator that these very different characters should become virtuous, in order to fit and prepare them for a state of happiness.

If such was the purport of man's existence here, how would that virtue be produced which we should rationally deem to be fit for a state of happiness? Should we say, because one of these characters appears by nature almost as good as human infirmity can attain, that, therefore, that person was immediately fit for such a state? Unquestionably not; and for several reasons. First: Because there is no merit whatever in such goodness, however great the degree; and, humanly speaking, merit (not desert before God, but what *we* call merit) is necessary to constitute a virtuous character. There is no self-denial (which in fact constitutes merit) in such goodness; not that self-denial or painful restraint has, in itself, any intrinsic good, for all pain is evil, but because the discipline of self-denial is found morally necessary to impress, and, if we may so say, indent the virtues in the mind. Because such virtues as we are born with are precarious, if they be not tried; they hold loosely, they are like trees which require the winds of adversity to fix their roots firm in the soil. Secondly: Because these native good characters have, of course, some native evil dispositions, and which require correction; for *any* unchecked evil in the heart effectually excludes a character from the class of the virtuous, and in the same degree disqualifies such a person from a state of future happiness, because it would be incompatible with a state of happiness on earth. Any evil in the mind, if not checked, is liable to lead to the most destructive consequences; much more is any unchecked evil incompatible with the hope of future felicity. In fact, such native good characters are never safe. There must be discipline, trial, effort, self-denial. Suppose, on the other hand, a character just as bad by nature as the former is good,—it will not follow that this person will attain the same degree of virtue as the former, under discipline, will attain; but he will probably require much more of that discipline before he attains such a degree of virtue as is compatible with enjoyment of true happiness, here or hereafter.

If the preceding remarks be correct, and this life intended for such discipline, we may expect to witness a diversity of corrections, as well as a diversity of native characters, and also a diversity of ultimate attainments: and so far, I think, all accords with what we observe in the world; not that the worst characters always receive the most discipline, for they can stifle the means of amendment, or may be cut off in the midst of discipline; but that when they are what is called reformed, it is generally through a proportionable degree of suffering of some kind or other. Nor is it found that they generally attain to such high degree of virtue as the better spirits when they have been purified. But it may be said, perhaps, that there is nothing definite or decisive in this supposed system of discipline; that different minds, being differently tried, and attaining different degrees of virtue, this diversity seems to preclude that decisive result which appears necessary to constitute a decisive moral state; and it may be asked, what is the criterion by which characters so different by nature, and also in moral attainments, can be deemed decidedly virtuous, or the reverse? If some have by nature intrinsically more good dispositions than others can attain by self-denial; if some take such high degrees in virtue, while others who yet strive are at the end of their lives so very full of infirmity, how is it ascertained that a character is decidedly virtuous? The criterion is easily defined, and I believe generally admitted, he only is to be deemed a virtuous character in whom there is a *fixed principle* *of doing what he believes to be right.* Men may be strongly urged to the acquirement of many virtues, but it is only, perhaps, in order to gratify some ruling passion, independent of all other motive. In fact, they may have no principle at all but self-gratification, and yet may become, in some respects, very eminently excellent, as a man of towering ambition will often exhibit the self-denial of a martyr, as pride proverbially feels no pain: but this is not virtue. Again: Others may be actuated in general by a principle of duty, but in certain points they may deliberately allow themselves in sin: nor is this virtue. And, again: Others may at times be altogether governed by duty, at other times give full sway to mere inclination: nor will this constitute a virtuous character. Nor, if this be correct, can the common and popular notion be just, that a virtuous character is one in whom the good preponderates over the evil; for that may be said, perhaps, of some native dispositions, who have never exercised any self-denial at all: and if not, it is a very false test of virtue; in the estimation of which we must always consider *how* and *why* the good predominates. It appears, then, that a *fixed principle of duty* is the true criterion of a virtuous character, and this independent of the actual degree of virtue attained. But after this point, which constitutes a character decidedly virtuous, is attained, there is no termination to means of improvement.

They who do not advance, cannot sincerely hold this principle. As long as life lasts, there is always a higher degree of virtue to be acquired. No one who means to do right, can rest in this strife: it is the discipline of pupilage even to the very end. Let us again inquire, then, how this criterion accords with the actual phenomena. There have been multitudes in all ages, and of all religions, who, according to the light they had, and what they believed to be their duty, have attained to this state of moral goodness. Even under the least and lowest systems of religion, there have been persons actuated by this principle of duty; and the same description corresponds to the highest attainment under the Christian faith. The most advanced Christian can have no better principle than to do what he believes to be right, though he may have such incomparably superior faith to guide and enable him. Such persons, then, have so far answered the purpose of moral probation; not that they have approached to perfection; not that they have ceased to need and to obtain a still greater degree of virtue after the principle has been established; but that, however comparatively low their attainments, this constitutes a virtuous character. He who sincerely purposes,—has a fixed resolve to act up to what he believes his duty, however low the standard of right,—is a virtuous character. We may say of all such persons, whatever be their denomination, that their moral discipline has had a decisive effect.

But it was observed, that this is a state of imperfect discipline; and, accordingly, millions who were apparently working to this point, have died before they became decisively virtuous characters. Whether from some peculiarly strong tendency to evil within, or from some peculiarly strong temptations without, or only from an unhappy weakness and fickleness of mind, they have, with more or less moral improvement, more or less sincere desire to do their duty, yet fallen short of this decisive criterion of human virtue. Whether had they lived, they would have worked up to that point, or how, falling short of it, they will be dealt with hereafter, and especially what difference will be made between the sincere and virtuous believers in a false religion, and those who hold the only revealed faith; these are points that are far beyond any natural evidence to determine. All that has been asserted is, that there is in human nature and human life the means of such discipline; and that it does thus alter and improve the virtue, and has established the character and principle of millions.

If, then, the objections to such a view of life have been fairly explained; if human virtue has really an intrinsic moral worth; if the consideration that the present is a state of discipline *commenced only*, obviates many of the exceptions;

if it appears that numerous characters are subject to much more discipline than we are apt to imagine; if the capability of such discipline, though not called forth, exists in every mind; if there be only such remuneration for virtue in this life as decidedly to shew that the Creator wills that we should be virtuous, and such as is calculated to stimulate the mind to further progress; if, while these objections are removed, the general phenomena of human life accord with a state of moral discipline,—what is the natural inference, but that the only explanation of the moral system which accords with the phenomena, must be true? And, add to these considerations, that this view of the moral world accords entirely with the preceding view of it, as under the moral government of God: for that government has no termination in this life, and can have no conceivable end or purpose but as it relates to another state in which the Creator's approbation of virtue is to be manifested, in the revival of those who are thus prepared, by discipline, to enjoy its rewards.

Again: We have at once in this single hypothesis, of a state of discipline in virtue, and in *that only*, a solution of all the host of physical evils which bear directly or indirectly upon the character of man; which try his patience, and tend to establish his moral character; and in this solution we find an ample answer to many of those physical defects, such as disease, unhealthy or intractable regions, famine, earthquake, and various other dangers, all which bear in an especial manner upon such a system, and shew how well man, and the circumstances under which he is here placed, are adapted to each other. Thus, while these facts afford a strong intimation of a future state, they clear any remaining objections to the principle of our argument, viz.: the skill of the physical system. If these and other evils be needful to a moral discipline, or probation, surely, as far as they are so, the question of the origin of evil is explained. It is far from an irrational supposition, that a certain order of beings must be adapted for happiness, not by a fitness for it imparted at once (as we conceive angels have), but through moral discipline making them first virtuous, then happy. Judging by what we experience, we should say, the happiness so purchased is calculated for intense enjoyment. In the vast circle of created beings, it appears to be a good and wise plan, that there should be some who are thus trained to happiness. And if so, what, I repeat, becomes of the objections to those evils by which alone a moral being could be disciplined in virtue? This system of enjoyment, through discipline, so far from being objectionable, is surely, *primâ facie*, a wise and excellent provision for happiness. But such a system necessarily involves evils, physical and moral, as the means of trial; and thus it is that the supposition of a future state, corrective of all that is wrong in the present, and compensating for all which has been suffered, removes every conceivable difficulty relative to the permission of physical and moral evil, that is, relative to the Divine government, considered as the government of a Being of infinite wisdom, or, what is virtually the same, of infinite goodness. Such a view has, therefore, the remarkable property, that it is not only in itself in the most perfect harmony with all that is really known of nature, but it puts every apparent discord into harmony.

There is ample evidence, then, that the tendency of this discipline is to prepare mankind for happiness: that those who attain the proper end of their existence here, do actually arrive at a high degree of preparedness for it; and when they have attained this high state of preparedness, again the thread is snapped—they die. Now, were death the total extinction of existence, this discipline would be an instance of a most expensive apparatus, constructed and put in unceasing motion, to accomplish nothing. No other case at all analogous to this is to be found in any part of nature known to us. Granting that virtue (when ripened into habit) has in this life the reward of inward peace and contentment, still, as true virtue ever progresses, the height of such acquirement would be always attained at the very period when the profit and enjoyment terminates in death: while the motive for such acquirement would be founded chiefly upon a delusion. There would be these palpable inconsistencies in the moral scheme, even when confirmed virtue does receive its inward remuneration.

But such recompense is much too precarious and irregular to constitute a consistent moral scheme; for the strongest and highest efforts of human virtue recorded in the history of man, have been those of self-devoted martyrdom to some supposed duty:—where was the remuneration then? Again: Thousands have died just as they were sustaining all the pain of virtuous self-denial, and before decisive victory and habit brought the reward. And, again: Thousands, by *external* calamities to themselves, or those dearest to them, have lost in protracted sufferings the quiet consolation they would otherwise have enjoyed:—where was their retribution?

Supposing then all to terminate here, the moral plan would not only be void of all goodness, and even of common justice, after the rational expectation of futurity had inspired such exertions; but it would be an inconsistent, an ill-constructed, and an abortive system. And if any one who considers the exquisite perfection of the subordinate physical scheme, can believe that its Creator could so diversify the superior moral system, that a child could detect its unskilfulness, he must be the most credulous of human beings. For if there be no future, whether we look to the natural progress of man in *knowledge*, or *prudence*, or *virtue*, we find it a plan which ends when it is most ripe for continuance, and that it is a long and painful preparation to effect nothing.

SECTION III.—*Belief in a Revelation on Evidence which cannot be controverted by the Believer, a presumptive Proof of a Future State.*

IT is a matter of experience, not of proof, that there has ever been in the world an influential belief, more or less strong, more or less rational, of another life. The question is, whether all that belief has arisen from the fraud or folly of man; or whether a large portion of it has not naturally sprung from the structure of mind with which we were born, and the circumstances in which we were placed; or, in other words, from the nature of man, and the course of events. When we say, a large portion of the belief in a future state may have sprung from sufficient evidence to make that belief rational, or unavoidable, it is certain that such a case cannot apply to the founders of false religions. They must have been either credulous, or selfishly or piously fraudulent: the case applies only to those who, being born after such religions were established, had such evidences of their truth presented to them, that they were not able to disprove or confute them, and therefore believed with a greater or less liveliness of faith. In discussing this point, we are not assuming that there has been a true revelation: our premises do not allow us to premise that; on the other hand, we certainly do not premise that there has not. Leaving that point entirely, the only question to be resolved is, whether human nature being such as it is, such as we bring with us into the world, this belief in a future state would naturally and necessarily spring from the structure of the human mind, under the circumstances that produced that belief. Upon the principles of necessarianism, of course it would; but I would build no inference on a contested theory. Supposing an entire freedom of choice, it is evident that, in multitudes of cases, the preponderance of motive or argument may be manifestly so great on one side, that there can be no doubt that a rational, sensible, and good mind would adopt the alternative of belief; and the question recurs, whether such has been the evidence of a future state, under *any* professed revelation, that a good and sensible mind would certainly believe? It is very material to our inference that this point should be ascertained, because we must not ascribe to the providence of God that which springs from the folly or fraud of man. I would endeavour, therefore, to point out wherein lies the distinction between credulity or knavery, and rational belief, omitting at present all consideration of the Christian faith. It is a matter, I repeat, not of proof, but experience, that millions have placed their entire confidence in the prospect of a future life, through various modes of belief, and have more or less regulated their lives thereby, according to the way in which they were taught to seek happiness hereafter. And it is a matter not of proof, but of fact, that multitudes of these confiding persons neither were accessary to the fraud or weakness involved in the propagation of the more rational and moral of these religions, nor had, at the period in which they lived, sufficient evidence or ability to confute them. These are facts, not arguments, and they are calculated to arrest the attention of those who are prone to ascribe *all* belief in a false religion to the instigation of the Spirit of Evil.

I shall state two kinds of limitation to this inference. One respects those false religions, the other their sincere professors.

First: There is a strong distinction between those truly barbarous creeds which inculcate the worship of demons through fear, and have no moral code, nor hold out a hope of an hereafter, and those which acknowledge a Good Superior Being or beings, and that He or they require a virtuous life, and will reward and punish according to what the worshipper considers as right and wrong. The former have no title whatever to the name of religion ; we exclude them entirely from the argument, as well as all the creeds which are altogether palpably and grossly absurd. Of the better kinds of faith, there are various grades, from the low moral tenets of the aborigines in the West, to the virtuous and intellectual faith of the more enlightened worshippers of Brahma.

It would be useless to the present object, were I able to give an abstract of these grades of belief: the principle of the argument will be briefly explained by a few short passages respecting the nature and spirit of the latter faith, taken from the Asiatic Researches of Sir W. Jones.

I need not say that the religion of the Vedas existed ages prior to the Christian dispensation. "They (the interpreters of the Vedas, says Sir W. Jones) concur in believing that God is alone perfect benevolence, perfect truth, perfect beauty. That the love of Him alone is real and genuine love; that the beauties of nature are faint resemblances of the divine charms ; that from eternity without beginning, to eternity without end, the Supreme Benevolence is occupied in bestowing happiness, or the means of attaining it ; that men can only attain it by performing the part of the primal covenant between them and the Creator. That we must beware of attaching our minds to phantoms, and attach ourselves exclusively to God. So enraptured are they with the beauty of Him who decorated the human form, that with the beauty of the form itself they have no concern; and if ever they behold a beautiful shape, they see in it the mystery of God's work." (Sir W. Jones on the Mystical Poetry of the Hindoos.)

" Our divine religion (says Sir W. Jones) has no need of such aids as many are willing to give it, by asserting that the wisest men in this world were ignorant of the two great maxims, ' that *we must act in respect of others as we would wish them to act in respect of ourselves;* and that, *instead of returning evil for evil, we should confer benefits even on those who injure us.*' The first rule I have seen word for word in the original of Confucius, which I carefully compared with the Latin translation. The beautiful Arga couplet, which was written at least three centuries before our Christian era, pronounces the duty of a good man, even in the moment of his destruction, to consist *not only in forgiving, but even in a desire of benefiting his destroyer.*" (Discourse XI.)

These passages give but a very imperfect abstract of the spiritual nature and admirable morality of a religion which was long prior to the Christian. Now, however much of unquestionable evil instigated the propagation of this religion, yet this, certainly, is not the *doctrine* of devils. And all I infer is, that as this and some other false religions have more or less moral good mingled with their tenets, they may have been providentially permitted, and the evil directed to a moralizing purpose. But on this important subject I would prevent the possibility of mistaking what is observed.

If we suppose that the providence of the Almighty has permitted that there should be such erroneous modes of belief as the latter, they were permitted only as substitutes for no belief, and solely as better than no religion; not as precluding the need of conversion to a true religion; not as of any avail whatever where the true faith is known. Again: it is certain that God has not caused the revelation of Himself to be universal. And, under these circumstances, the more moral of the heathen creeds, such as the above, are certainly far better than no religion; millions have held them sincerely and consistently, who had *no possible* means of knowing the true faith. It is, therefore, a fair inference, that as the Almighty gave to the Jews the temporary dispensation of the law, " statutes that were not (as to the means of salvation) good," and " commandments whereby they should not live," as introductory to " a more perfect way," so he might permit among the heathen those modes of religion which are, on the whole, virtuous in their tendency;—all to be renounced as soon as there are any means of conversion to the true faith. I have one more remark to make on the religion of the Hindoos. The abominable follies and cruelties which have been engrafted on this faith, must not be confounded with the religion of the Vedas. That the comparatively few have been disciples of the true, while the many have followed the gross and superstitious portions of the creed, is a proof how much human beings require a better guide than their reason; but it is no proof that a limited good has not been attained.

Our next distinction respects the followers of these various errors. They must all be divided into three classes: first, they who had any part in the original propagation, either by fraud or weakness: secondly, they who merely adopt the outward profession and ceremonies: thirdly, they who really believe in their tenets, and do seek, by conduct and dispositions as they think virtuous, to obtain the favour of their supposed supreme being or beings, and expect a future award according to that which they have been taught to consider as good and evil. I am speaking only of the latter class. Thus by excluding from the evidence all that belief which common sense, unprejudiced, might detect to be false; all but those creeds which hold a future award, according to principles which the votaries consider to be right;* and further, excluding all such votaries as are not sincerely actuated by their belief to seek some future happiness, we retain an ample scope for the inference, which is this: if God has permitted thousands of sincere beings, *who knew no better way of pleasing Him*, to serve Him under a confident persuasion that they should be happy after death, in consequence of such conduct; if such religions have had, on the whole, a moral tendency; if these persons had no means of detecting the fallacy of their creed, He has virtually implied to them a promise of a future state. He has created them, knowing that they would necessarily have that belief. He has brought them into existence under such circumstances, that they had access to no means of more correct views of His will. They have acted according to the knowledge they had; they have been sincerely desirous of His favour; they have striven to obtain it with a mistaken zeal, indeed, but a zeal which evinces their sincerity; for some of them have endured the most severe privations and sufferings, even to death,† in obedience to the dictates of their religion. To

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* If the evil admitted into these codes of right be thought to

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prevail over the good, I would bring to the memory of the objector the words of Dr. Butler (quoted in p. 334). That great and enlightened mind admits the justice of the general estimate of mankind as to right and wrong.

† I include only those martyrs to their erroneous opinions who have joined sincere virtuous conduct to these uncalled-for sacrifices.

please the Almighty, as they supposed, they have died in the full trust, in the unshaken belief that He will give them another existence. This, then, is an implied promise. Much less than this would be considered as an implied promise from man to man. But would a wise Creator imply what He never intends to bestow? This conduct would be inconsistent with the principles which He Himself has given us; inconsistent with the sense of right and wrong which He has implanted within us, and by which we are sure (unless He meant to confound our judgment) that in acting thus He would act unwisely.

The Creator of all these wonderful works is not a Being to construct a crooked moral scheme; the Being who has given us a moral principle within, to love truth and honour, and abhor falsehood, evasion, or prevarication, would not act diametrically the reverse. He who can create worlds by a thought, and, probably, is creating them continually, could not have evaded, because of any difficulty, a gift He has clearly intimated. But we can put no other interpretation on such hopes, if not verified, but that they are promises evaded, which to Him were as a drop of water to bestow. Not that we would infer that such endeavours to serve Him, *merit* reward, but that God has been pleased to permit thousands of sincere and suffering creatures to die, under the full impression that they were to have a reward in consequence of their poor and imperfect services.

But if this be a fair inference in the above cases, how much is it strengthened by the case of the true revelation? I mean that which we know to be true, but which, in the discussion we must premise, may possibly be false. In this case, the excellency of the morality, the heavenly purity and beauty of the spirit inculcated, will not be questioned, nor will the intrinsic virtues of its sincere followers.

Supposing it possible* that it arose in pious frauds, well-meaning errors, and a combination of coincidences, still its evidences, external and internal, are such as no man has ever decisively confuted, and millions have most rationally confided in, and could have no possible means of disproving. It is so excellent, that even if it could be erroneous, it would still be a virtue to err with it; and both good sense and virtuous feeling cordially concur in proclaiming its truth. Such being the case, it is impossible to conceive that there can be the slightest moral offence in the sight of God, even suppose it not authentic, in believing it, loving it, and obeying it. So far from offence, we cannot but believe He would approve of the faith of those who, being no parties in the supposed error of its propagation, were unable to detect its fallacy; nay, that he would condemn their unbelief. We may infer then, that this belief (true or not) is providentially given them.

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* To assume this possibility is very different from assuming the probability.

In this belief, so natural, so commendable, millions have looked calmly, and even wishfully, on death,—nature's strong abhorrence,—and have departed in the entire confidence of a happy revival; while a " noble army of martyrs" have unshakingly courted the flames, in full confidence of a glorious resurrection.

The rationality, the strength, and the extensive influence of a belief in a future life, even in some heathen countries, being admitted in a greater or less degree, and entirely accorded as regards the Christian's faith, we confidently infer that if a future state has not been promised by the Creator, it has been *implied:* if not to the authors of all these religions, to the sincere votaries. And on the principle of the manifest power and skill of the Creator—unbounded power, consummate skill—we might rest assured, that *He* who thus virtually promised this hoped-for consummation, will bring it to pass. Such a Being would not have had recourse to a virtual prevarication; for what should induce Him who has all space, and time, and power, and all possible resources at command, to imply what he never intends to fulfil? But we infer this also, from *the* *sense of right which He has implanted.* (See chap. iii. sec. 1.) It is inconsistent with that wisdom which He has so abundantly displayed, to impart to us a clear knowledge of justice, honour, and truth, and then to act directly contrary to these principles Himself. We have another reason to allege why the Creator will not withhold the gift He has thus intimated, viz., because He has carried on the affairs of the world mainly by that intimation.

We have not again, I trust, to prove that the Creator has acted so inconsistently as to construct the exquisite system this globe exhibits, the wondrous phenomena of organic existences, and the crown of all—the rational creature, man, without any ultimate moral plan or design. But whatever that ultimate plan may be, it is certain that this belief in another state, has ever formed a very material engine in the working out that plan, and especially since the epoch of the Christian faith. If there had been no such grounds of belief as the more rational of the professed revelations have afforded, this world, at the present epoch, must have presented a very different scene; its history would have been very different; its inhabitants very essentially different; and the ultimate end of the great moral scheme, whatever it may be, thereby necessarily affected in proportion to these differences. I am not supposing there would have been no hope of the future. We leave the other natural evidences out of the question; but we affirm that if there had been no such faith as has been caused by evidence in those professed revelations which the sincere votaries could not detect to be false, the course of this world would have been essentially different; the moral state of the world essentially different; every purpose, physical or moral, which the present state of society is working out, whatever that may be, would, therefore, have been materially affected and altered.

There could not have been the order and the morality, the virtue and subjection to various duties, which now exist. It is impossible to say to what a pitch of anarchy and immorality, high civilization, without any belief in any revelation, might have brought society at the present epoch. The natural hope of a futurity restrains only the comparatively few. It is the belief in some professed revelation that curbs the multitude in all ages. A civilized state without belief in any revelation must have been fearfully depraved and disorderly. Now, supposing it to be the will of the Creator, that there should be moral restraint and order in the world, instead of general licentiousness and confusion—that is, supposing the reasoning in chap. iii. sec. 1. respecting the moral government of God to be just, and if such belief has been the chief instrument of the preserving that morality and order in the world, we must infer that there is a future state, or that the God of all power desires and wishes the virtue and morality of his creatures, and yet makes use of a delusion and virtual prevarication, in order to produce that effect. That is, that He acts immorally to produce morality. It is evident, then, that by the existence of the belief in some revelation, two consequences have necessarily followed: first, the world has been preserved from a state of such licentiousness and disorder as could have answered no moral purpose whatever: secondly, millions, who have had no means of discovering a fallacy in their belief, have acted virtuously, while hundreds have endured martyrdom, entirely from their confidence in a future state inculcated by their religion.

The question has been, whether it is credible that a Being possessing power and skill, absolutely unbounded, and who has implanted within man's heart an abhorrence of all subterfuge and evasion, has thus withheld implied bounties—and has made use of a delusive hope to effect these purposes—has used evasive and crooked means?

If the above representation of the nature and effects of such belief be correct; if the tendency of such faith has been thus essential to the moral end, whatever it may be; if the belief of the votaries of such faith has been, not only involuntary, but in their circumstances meritorious—there can be but one reply. It is incredible, I repeat, that the Creator has thus providentially made use of a delusion, that is, acted immorally, that moral good may come,—that moral good to end at last *in nothing*. Such conduct would not be merely immoral, but inconsistent; such a scheme not merely unworthy, but unskilful.

This is a conclusion derived chiefly from the consideration of the wisdom and skill of the Creator; but, it has been observed in the commencement of this Essay, that it does not follow, because the wisdom and skill of the Creator is the leading principle, or basis of the argument, that we should omit the important consideration of His goodness, His justice, and His truth. These attributes admit of an independent proof, partly from the exuberant preponderance of enjoyment which He has given to sentient creatures in the mass, and partly from the absence of all conceivable cause of evil, in a Being of irresistible and unlimited power. Now, judging by the principles that He has given us to distinguish right from wrong, we should infer that it is impossible that a Being of the least truth, justice, and goodness, could act thus.

CHAPTER IV

SECTION I.- *Proofs that there are incongruous Faculties in Human Nature, if there be no Future State.*

To be able to prove any of the works incongruous of Him who has never erred in the exquisite skill of his adaptations, if our principle be right, is to prove also that we do not understand, or do not take into account the design of that work. The latter is the case in the present instance, if we try the plan of human nature, leaving out the consideration of the obvious purport of it as destined for a future state; it then appears very naturally an ill constructed inconsistent scheme. I will remind the reader of the exquisite adaptations of the physical scheme, and that the few trifling exceptions we examined are not of a nature to impugn the real perfection of the system: that irregularities, deformities, monsters, are produced by the clashing of general laws, and have probably a moral design: that the laws themselves are exquisitely adapted to each other throughout the vast scheme; and the ordinary and proper effect of those laws is manifested in the most complex and skilful designs; and that the whole physical system is one harmonious combination of almost infinite diversity.

"In the physical world (says Dr. Crombie) we behold every thing adapted to every thing in just measure and degree. Causes are admirably adjusted to effects. The powers of the agent wonderfully agree with the susceptibilities of the patient. Congruity of relation is every where visible: if any irregularity or anomaly presents itself, we find it to be only occasional and temporary. We have ample evidence to convince us that it is not intended to be general or permanent. We find the same admirable adjustment in the animal creation; every organ is fitted for its function, every appetite has its gratification. No animal inferior to man is endowed with a single desire, for the satisfaction of which its Beneficent Creator has not provided. Their enjoyments are fitted to their desires, all are fitted to their several spheres. So admirably adapted are their capacities and enjoyments, their appetites and gratifications, that they have no wish for any thing beyond what nature has supplied. And, what is of supreme importance to real enjoyment, they can indulge in the pleasures of the present hour without the painful anticipation of the moment that shall consign them to their parent earth." (Nat. Theol. Essay IV. ch. i. sec. 8.) Now, if we contrast with this the following inconsistencies and absolute contradictions of the moral system as exhibited in this life, it seems impossible to evade the conclusion, either that they are not the works of the same Being, or that the moral system is not completed here. It has been alleged as one of these inconsistencies if the moral system terminate here, that man has any idea or belief of a future state: but his understanding being in all other respects as it is, such an idea and belief is, I think, unavoidable. But this is not the case with the *horror of extinction of existence,* and *yearning after immortality.* These need not have been, and yet man might have been in most other respects the same creature that he is. The horror of annihilation does not proceed from the dread of parting with our friends or our property, and therefore is not inseparable from these or other blessings; for they who have no such attachments and no worldly advantages, yet have no abatement of this dread; and they who have, feel this horror without reflecting upon what they should lose by extinction. It proceeds not from the fear of pain, because, if we were sure that existence would become extinct without the least pain, it would not be the less dreaded; perhaps the more, because it would come without the relief that death frequently affords to our sufferings. The inferior animals dread pain, but they have no fear, because they have no idea of annihilation. Man must ever dread pain by the very constitution of his nature; but this horror is not contingent on the fear of pain. It is not contingent on the enjoyment of life, and it is evidently not proportionate to that enjoyment, because, till a man is wrought up to that pitch of distress—may we not say insanity—as to intend self-destruction, this dread of annihilation is not abated—till that point of questionable sanity is attained, any sudden danger of death, even without pain, would probably excite as much terror as in the period when life was relished. This terror appears to be a strong instinctive feeling in the human mind independent of reflection on the happiness enjoyed. But were it contingent on present enjoyment, there is no question but the Author of our being could have weaned the mind from every such tie before our departure, just as easily and as suddenly as a parent among irrational creatures is weaned from all regard for the offspring she would a week before have died to preserve. It is, therefore, no counter argument to urge, that this principle is contingent of the experience of happiness: we ask, why is this connection preserved to the last gasp? How easily could He who is all skilled in all expedients, have imparted the full relish of happiness for a season, and yet made death, like sleep, if not courted, yet ever experienced with calm indifference. In fact, we are for a time extinct as to all consciousness in the sleep we court. How little alteration of our nature would have made utter extinction as easy to the dying as sleep to the living!

But this is but half the case. We have not only a horror of extinction, but a longing, a yearning after immortality; so deeply seated as to amount to a belief that we have it. Although we know that we must die, we can scarcely impress this knowledge on the mind: and we have an insurmountable feeling and conviction of our revival and immortality. So strong is this desire that many would hastily, and rashly, prefer an eternity of punishment to non-existence. And this gasping after existence, and this fear of extinction is the most powerful principle in our nature. But if that which man dreads with such instinctive horror be his fate, and if he be doomed never to attain that for which he has such a strong desire, all analogy is violated, and these strong propensities are directly contrary to the object and end to which they respectively appertain. But are they not analogous to the animal instincts? If they be, the inference is certain; for of them, not one has been given in vain, or has led to nothing. I shall fortify this trite but solid argument by the words of a very eminent living writer. "There is not only a universal perception of the possibility of such a (future) state for man, but a *universal* desire and longing for it. No desire unattainable, no longing *never* to be gratified, *in a single instance* known to us, has been given to any other creature. Consequently, were it given to man in vain, man would form an exception to every other part of nature, and that in reference to the highest and noblest of his faculties. The hope in such a state has been so general as to render it analogous to what in animals is termed a natural instinct. This affords a very conclusive argument, because there is *no* example of an instinct *leading wrong*."

That our greatest quantum of happiness in sublunary things arises from the *expectation* rather than the possession, is another singular provision in our nature; and certainly has a mysterious leaning on the future. But it is a still more striking portion of this system, that the *present*, however intense the gratification, *never satisfies*—never (except it be religious pleasure, and therefore respects the future,) does it fill the mind with content. Something is wanted or feared. Strange if all the happiness we are ever to have is confined to this life, that it should never satisfy us heartily in any one instance, except when connected with the hope of a future. Are we born with a capacity to know and appreciate real happiness, and yet never to feel it except in the hope of a phantom? This would be a palpable incongruity. But is it credible that there is such inconsistency in our nature? No! says Young :*

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* I should deem quotations of poetry in general, in a serious argument, not only out of place, but to throw an air of lightness over a momentous inquiry. But so weighty and conclusive are the thoughts of Young, that we forget they are in the form of verse, and read them as we would read a philosophical dissertation. The quotation that illustrates and explains is admissible in the gravest argument.

> "Heaven's promise dormant lies in human *hope;*
> Who wishes life immortal, proves it too.
> Why happiness pursued, though never found?
> Man's thirst of happiness declares *it is:*
> (For nature never gravitates to nought,)
> That thirst unquench'd declares it *is not here.*"
>
> *Night* VII.

But of all the inconsistent faculties, on the supposition of no futurity, the most remarkable is the principle of *conscience.*

I shall not enter into the question whether conscience be wholly or in part influenced by education or public opinion. By whatever rule it is governed, it is a principle of our nature as much as love or fear. It is implanted by our Creator, not imposed on ourselves, or by one man on another. And it is the principle itself, not of the rule by which it awards, that we are here speaking; and the question is, what indication it affords us of a future state. When this principle is not seared, it applauds or condemns our actions, independently of the applause or condemnation of society; although it most frequently happens, of course, that our actions have the same estimate in the world and in our own minds.

The following objection to the inference from this principle, is certainly plausible.

It has been said, that the approval or condemnation of this principle is not an indication of a future state, because it is given us "as an incentive to virtue, and to deter from vice, for the pro-motion of general and individual happiness here, without any reference to a state of retribution. And that, as the pleasurable sensations accompanying health are powerful motives prompting us to preserve it, so the peace of mind attendant on virtue may be designed as an incitement to the cultivation of kind and benevolent affections." In answer to this suggestion, we admit the principle, that conscience was given us as a stimulus and guide to virtue. But, granting that our present discipline in virtue is an indication of some award in another state, the conclusion is just the same in respect to whatever faculty is given us to aid that virtue. Under the supposition that a commencing discipline in virtue points to another state, our conscience, as a means or rule of that virtue, equally indicates the same event.

In this point of view, however, it affords us no additional evidence; whereas, so marked and distinct a faculty is in itself, independent of its connexion with virtue, a very unanswerable index of an hereafter: For if it were true that it was implanted only for beneficial temporary purposes, how is it that it never is excited by any temporal benefit or any temporal evil, unless they are respectively what it feels to be right and wrong?

The greatest good a man could do to others, or acquire himself through crooked means, might give him much credit and pleasure, but it would never have the approval of this principle: and the converse of this assertion is equally true,—no calamitous termination of an effort to do our duty could deprive us of the approbation of conscience. But if conscience were only a handmaid to temporal advantage, how was it created with this uncompromising spirit? These awards are quite inconsistent with the alleged purpose—temporal advantage. It is an inconsistent principle on this interpretation, and for this reason we do not admit its validity. As far as this world's good is concerned, prudence and experience would be ample guides without a principle which, in many instances, steadily takes part against conduct which leads to an evident temporal advantage public as well as private. Conscience has always respect to *right* and *wrong*—never advantage and disadvantage. It is incredible that the latter only is its legitimate criterion and intended end. And, as Dr. Crombie justly observes, it speaks loudest at that period when it is no longer needed for a guide to temporal good, namely, at the hour of death—which is a confirmative proof that it has not, like temporal faculties, a mere temporal purpose.

Will it be explained away by calling it superstition, weakness, prejudice? Call it what you will, *there it is.* A name cannot alter a fact. There it is in the youngest child that has stolen his first apple; in the skulking savage that has drawn his first nail; in the sinner of a hundred years; in the philosopher, who calls it prejudice. It is not a matter of proof, but experience. It is the instructive expression of a secret principle in our nature, acknowledging unconsciously to ourselves the authority of a Supreme Being, and therefore always points, though perhaps unconsciously, to a future award. Will it be still replied, that the cases in which conscience takes part against our interest are few, and that as virtue is generally productive of temporal good, so its invariable approval of virtue is sufficiently advantageous to sanction the idea that it was implanted for this purpose? Observe, again, the inconsistency of the explanation here offered. Virtue is admitted by all to be sometimes adverse to our temporal interest. I have in these pages stated some instances in which even a *course* of virtue and vice have no temporal retribution; and it is so obvious a fact, that I need only mention the cases of those who voluntarily hazard their lives for the sake of their supposed duty, be that duty what it may, and after the horrors of anticipation suffer the pains of a cruel death. But conscience is not subject to any such irregularities; its awards *invariably* accompany what is felt to be right and wrong, virtuous and vicious. Now, supposing the principle of virtue itself to be given us as a means of temporary happiness only; it is very inconsistent, very unlike the exquisite adaptations in the physical world, that it should be subject to so many failures. But far more incongruous that the other principle of conscience, which was intended as its guide and criterion, should *never fail* in any case to accord with virtue, even when the sole intended end of both (our temporal good) is entirely defeated; and yet never fail to revolt from vice even when vice is most beneficial. As a view of a system of the Almighty and all-skilful Creator, this is perfectly inadmissible. Either this view of the case must be incorrect, or it cannot be the intention of the Creator that the system ends here.

But not only is conscience, as a principle in the mind, quite incongruous, if there be no future award; but *religion* itself, meaning by that term our feelings towards the Supreme Being—not the servile fear caused by temporal motives, but religion in its fulness, as especially exhibited in the Christian character. Neither would this powerful principle have any consistency (for it would have no proper object) were there no future life; because it is not the God who gives us the mixed good of this world, and then exterminates us, by whom this principle is called forth, and to whom it is directed, but the God of the future. These strong passions have that Being for their object. The motive that calls them forth is the belief that He will give us another and better state of existence.

Yet we do not deduce our inference from the belief alone; for mankind have believed so many absurdities, that the mere belief would be a very frail foundation for this conclusion; but because they have passions and feelings admirably corresponding with that belief—

> "Objects, powers, appetites, Heaven suits in all."

We assert, that his religious feelings are not the consequence of the belief of man's understanding merely, but are implanted in the very constitution of his mind. His passions have a religious direction and object, which as naturally belong to them as the hopes and fears which are called forth by temporal causes. Without premising the authenticity of the beautiful picture of pure and spiritual religion in the scriptures, we see how these views and descriptions accord with the religious feelings of the human heart in all ages and countries where it has spread. And without entering into particulars, we cannot but perceive that these feelings are incongruous to man, if he be merely intended for this world. Yet they are seated in his very heart. Not all the writings in the world, aided by man's imagination, would ever be able to excite such feelings in the human mind, were they not naturally there, or imparted supernaturally. We must not assume the latter in this discussion; but then we must admit the former, namely, that they are natural to the human mind. But why? If adapted to this life only, a general fear of God, with a certain degree of thankfulness for happiness experienced, would be natural until men found that in this life "one event happeneth to the righteous and to the wicked:" then that fear and gratitude would cease. This is not that deep heartfelt religion, which becomes a passion in our inmost nature, and which is also quite distinct from the errors or excesses to which, in weak minds, it has given rise. It is one of the most powerful of principles where it is sincerely felt, and has often superseded all others. The particular objects, the creed may be erroneous, but the passions are real. Why then is this whole train of feelings implanted, if they are connected with nothing substantial? They in that case are palpably inconsistencies in the moral nature of man. Independent of the accord of man's spirit with any professed revelation, his natural religion, the natural feelings of every sound well regulated mind toward the Creator, indicate an appropriate object for such deep-seated affections. Analogy teaches us that every natural faculty, or instinct, through the whole range of animal existence, is called forth by some object, peculiarly according with the faculty to which it is allied: that object cannot be an exterminating God. The following admirable passage on this species of evidence occurs in Dr. Crombie's Natural Theology: "Nor can we regard that Providence which provides for the wants of the little insect, and at the same time guides the surrounding orbs in the trackless heaven, without feeling a conviction of his infinite goodness. And when we reflect that every breath we draw is His: that in Him we live, and move, and have our being; that all our public blessings, domestic comforts, and individual enjoyments are the gifts of His munificent, though invisible hand, our gratitude to our Preserver and unwearied Benefactor is naturally awakened. Reverence, devotion, and love, with a profound submission of his weak reason to His infinite wisdom, are predominant feelings in the bosom of every man who meditates on the adorable attributes of his Maker. To commune with the great Parent of the universe, is one of the most sublime and enrapturing gratifications of which the human soul is susceptible.

"Is it then to be believed that these pious emotions, which are the inspiration of the Being who made us, and are irresistibly excited by the contemplation of His works—emotions which constitute man's highest happiness, and the supreme dignity of his nature; elevating him above every low and grovelling passion, fitting him for a more intimate communion with his Creator, and associated with a desire to love Him with a purer heart, and to serve Him with a more willing mind, —are to be buried by death in everlasting annihilation? Are we *formed* to revere His power, to admire His wisdom, to adore His goodness, and to indulge in these pious affections with increasing delight through an eternity of ages, for no other purpose than to be extinguished in endless darkness? Is this reconcileable with a Being who cannot act in folly, and can do nothing in vain?" (Nat. Theol. Essay IV. Sec. 7.)

What has been observed upon the subjects of man's *horror of extinction*, his *conscience* and his *religion* is, that these principles implanted deeply within the mind naturally or supernaturally, would be *incongruous* were there not a future state, and that there is no such incongruity in any portion of nature that is known to us. We proceed to a kindred argument, which relates not to our love and veneration for the Supreme Being only, but to all the higher, and better, and purer passions and feelings of the mind.

SECTION II.—*Proofs that the Human Mind would not be fully developed except through the Belief in a Future State.*

WE do not merely assert, as in the preceding section, that there are incongruous and superfluous faculties in the human mind, if there be no future life, but that the full developement and integrity of the mind depends upon the belief in such a consummation—that the best part of the human mind would not be unfolded but for that belief, and therefore, that the mind itself would not attain its natural state, nor all its capabilities be called forth in their full energy. The Creator has made that belief accessary to the development not only to his moral plan, (see ch. iii. sec. 3.) but even to what may be properly called His physical plan; for we must conceive it His intention that all the natural faculties and powers of every creature he has made should be called forth; and in each species they invariably are fully developed. Now, if the higher and better principles in the human subject are not fully and entirely developed but by this belief, and are by this belief called forth in all their fulness and energy, it is scarcely possible to conceive that analogy can afford a stronger argument for a future state. But it is necessary to ascertain how and in what degree this influence can be ascribed to a hope of a future existence.

We assert, that to live under the influence of a lively belief in a future state is conducive in the highest degree to the developement and direction of the *distinctive*, and, consequently, the noblest powers and affections of human nature; and that, had there been no such hope, no degree of knowledge or of civilization could have drawn forth that degree of moral elevation to which man has attained.

This will be seen more clearly by reflecting upon the moral constitution of the human mind. It consists, as was before observed, of various propensities or passions, some good, and some evil, some low and debasing, and some pure and exalting: and as there are these very contrary passions and feelings, so there are two contrary principles in the mind, the one being a tendency to succumb to the low and animal propensities, the other a tendency to rise above and to resist them. The one principle, a mere animal selfish propensity, exciting us to follow the various inclinations of our animal nature, and to gratify the selfish passions of every kind without any other restraint than our own immediate inclination or interest suggests; the other a principle exciting us to cultivate the high and pure and benevolent propensities of our minds, and therefore to curb and subdue the mere animal tendencies to which the former are generally opposed, and also to consider and promote the welfare of others as well as of ourselves. It is chiefly from the predominance of this higher principle, as it reigns in the Christian character,* and is supported by the hope of a future state, that the inference is derived; although this inference is not necessarily contingent on the authenticity of the religion which has been the means of this full developement of the mind. In calling this better principle the spiritual mind, we must be careful to make the distinction, that by the spiritual mind the scriptures comprehend more than is here included in this higher principle of our nature; they mean not a natural, but a supernatural principle, a principle including our best and purest natural propensities, as well as faith, and all the graces peculiarly Christian; they include in this renovated nature a tendency to all that is good, all that is honest, all that is lovely and of good report; while the "carnal mind" signifies precisely what has been described as the animal selfish principle in our hearts. By applying, therefore, the terms spiritual and carnal mind to these natural principles, we illustrate this difference by the strongest simile we can employ, while we do not confound the subject with a revealed doctrine.

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* These two principles were in part acknowledged by the heathen, but the higher principle exemplified by the Christian only.

Young has well described the distinction of these two principles: —

> ...." a self there is
> Of Virtue fond that kindles at her charms:
> A self there is as fond of every vice,
> While every virtue wounds it to the heart,
> Humility degrades it, Justice robs,
> Blest Bounty beggars it, fair Truth betrays,
> And godlike Magnanimity destroys." *Night* VIII.

It can scarcely be necessary to prove that this self, as it exists in the Christian character, exhibits the fulness of the stature of the human mind. They who have not felt this superiority with a full conviction, would not be made sensible of it by any abstract argument. But it may be requisite to shew how entirely dependent this character is on the belief in a future state. It might be conjectured, perhaps, that the Christian, like the better heathen virtues, would be called forth in the mind by their own intrinsic beauty, and the peace and contentment they bring to the mind in which they dwell. This is not true: they are not recommended by any inviting lustre, and they must be habitual, and deeply rooted, before they produce that reward. But these virtues are only drawn forth by the hopes of eternity, and so connected are they with a future state, that, unlike some very respectable heathen virtues, they are really inseparable from this belief. For not only do these higher virtues often require such continual self-denial, as nothing but a future award would induce, but they spring from the hope of the future as a tree on its root. We may instance that principle of religion which we have just examined, our feelings towards our Supreme Benefactor, consisting of love, gratitude, and veneration. Nothing could ever have drawn forth this ennobling passion in the human mind, beyond a subservient fear, and a faint thankfulness for a mixture of temporal good, but the belief that there is a future state. Again: What but this hope would have drawn forth the virtue of purity? However temporal motives may constrain the conduct, nothing would have produced the curb on the thoughts but the belief in a state where the award will be according to the disposition of the heart.

Again: We may love our relations and friends very dearly; but charity towards mankind, and especially those that have injured us, must spring from peculiarly high and pure principles; and these principles are only called forth and sustained by our belief that a common Father has prepared for us a common and blessed abode, and by the heartfelt content and benevolence which that hope imparts.

The sterling worth and superiority of a character thus depending upon the higher principles of our nature is proved by this test, that when by painful self-denial and constant endeavour it is attained, it then, even in this world, imparts indescribable peace and contentment; and if all mankind were thus minded, the world would be a heaven below. There can be no question, then, that the predominance of this higher and purer principle is the sanity and integrity of our nature, for it is the heartfelt happiness of our nature.

> "A languid, leaden iteration reigns,
> And ever must, o'er those whose joys are joys
> Of sight, smell, taste. The cuckoo seasons sing
> The same dull note to such as nothing prize,
> But what those seasons from the teeming earth
> To doting sense indulge. But nobler minds,
> Which relish fruits unripened by the sun,
> Make their days various, various as the dyes
> On the dove's neck, which wanton in his rays."
>
> *Young*, Night III.

Now, I repeat, this higher and better principle (as exhibited in the Christian character) is not developed in the human mind but by the Christian's hope. This is one strong indication of the authenticity of revealed religion; but of course, the inference we here deduce is short of that conclusion. It is applied solely to the motive which gives the character life, strength, and consistency,—a belief in a future state. Some of these virtues may be born with us, or they may be called forth by some temporal advantage, but they will be either smothered where there is no such hope, or break forth partially and irregularly, and produce neither peace of mind in the individual, nor benefit to mankind. A belief in a futurity alone makes them consistent and durable. But if such have been the consequences of a belief in a futurity—if this view of the case be generally correct—there must be a future state, or all analogy would be violated. There is no instance in nature known to us in which the qualities of an object or being find their appropriate exercise, developement, and integrity, through a fallacy; this would be an anomaly in nature. Without these principles are developed, the human mind does not attain its full stature. *It is incredible therefore that the human mind should attain its health and integrity through a cause altogether visionary.*

But we have as yet observed only the elevation which the mind can attain under this belief; we have also to consider the depression it would sustain under the total absence of such a hope. Nay, the moral injury thus arising from the absence of all belief in a future state, is but a part of the argument which the subject supplies: we must add also the blighting effect on the mind produced by a certainty of annihilation; for the cases are not the same. It is true that expanding and elevating principle of belief is supposed in both cases to be wanting; nor in either case would the higher and better feelings be drawn forth. But the extent of the evil would be much greater in the latter case than the former; we, therefore, proceed to observe what effect would naturally be produced on the moral world, from a certainty, somehow obtained, that this life would terminate our whole existence. If it were certain that there is no future life, still charity, forgiveness, benevolence, would be conducive to the happiness of the individual and of the mass. It would still be true, that man's own highest happiness would be best promoted by the endeavour to advance the happiness of others. But the question is, What would induce mankind to pursue such a virtuous course, and how many would pursue it from choice? That there would be a few whose nature was happily more inclined to good than to evil, we might admit; that there would be others who having suffered much would partially reform it, is not to be denied; but the proportion of these to the world at large, we may judge by what occurs now, when there is such a general belief in a future award. Under these circumstances what would make these duties *obligatory* on mankind in general? Should we not, under a certainty of annihilation, become free from moral obligation? If not literally, man would be virtually demoralized. Of the three divisions of our duty, two would be abrogated. We should owe no duty except to ourselves, and that would be only to please ourselves most: on the whole, to be prudent would be the sum of our whole moral code, and even that would be optional.

It is in vain to contend that, the moral sense remaining, and the constitutions and laws of society remaining, which were built on that moral sense, we should still be bound to the above duties. Supposing, in cold abstract speculation, such an obligation could be maintained, which is exceedingly questionable, what is to produce the practical observance, after the very framework of all moral obligation had been broken up by a certainty of extinction of existence? A cold abstract right is a nullity, if there be no authority to exact, and no award to stimulate to obedience. Let us observe more particularly in what manner these obligations would be destroyed, these duties annulled, these virtues rendered optional.

First: With regard to our duty to our Creator—our religious feelings and obligations. In the few better minds, some gratitude to the Creator, the giver of all happiness obtained, or obtainable here, would still be called forth: for to all, except the most miserable, human life would still be a boon, upon the whole, in the degree it was preferred to non-existence: and some would, occasionally, feel grateful for it; just while life was prosperous, and the animal spirits buoyant. But could such an equivocal blessing as life would then be, could this boon constitute the basis of all religious duty, as it exists at present, purifying, and enlarging, and elevating the soul? Unquestionably not. The Creator would be scarcely felt as a benefactor here, and we should have nothing to hope or fear from Him hereafter. He would have given us an existence encompassed with evils, not as now intended for moral discipline, and ultimate good, but all sheer unmitigated evils. He would have given us strong and virtuous affections only to dread the utter loss of our dearest connexions every moment. And He would have given us life only to experience the continual horror at its extinction: under these circumstances we could not *love* Him. While the moral government not being completed under that supposition and casual events falling indiscriminately, to the good and the evil, there would be no inducement to *fear* Him.

But if our obligation to our Creator was thus rent asunder, no other duties could be binding. Man might lawfully treat his neighbours, his friends, and his kinsfolk *then*, just as best suited his interest or pleasure. Virtuous, benevolent, and affectionate people, would still continue, perhaps, to live correctly, love one another, and do good to those near to them; but these would be the very few. Prudent people of an opposite character would avoid dangerous and scandalous crimes, would take care of their property and their health, and there their morality would cease. Conscience might occasionally reproach them, but the law of conscience would be of force only while it was the voice of a power that had authority over us. A man might say to his conscience, "What allegiance do I owe to thee *now?* shall we not perish together?" As to his duties to his friends, his neighbour, and his country, he might say:

> " Why Virtue? Where its praise, its *Being* fled?
> Virtue is true self-interest pursued,
> What true self-interest of quit mortal man,
> To close with all that makes him happy here.
> If vice (as sometimes) is our friend on earth,
> *Then vice is virtue:* 'tis our sovereign good.
> Die for thy country, thou romantic fool!
> Seize, seize the plank thyself, and let her sink.
> Thy country what to thee? The Godhead what?
> (I speak with awe) though He should bid thee bleed;
> If with thy blood thy final hope is spilt;
> Nor can Omnipotence reward the blow.
> Be deaf, preserve thy being—*disobey!*

Nor is it disobedience. Know, Lorenzo,
Whate'er the Almighty's subsequent commands,
His first command is this—Man, love thyself!"
Young, Night VII.

These passages so entirely and forcibly express the great moral convulsion that would arise from the certainty of the alternative of man's annihilation, that it is needless to dwell on the fact. It is in vain to say our duty would remain the same, only we should lose the obligation to obey it. That very circumstance causes all the distinction. What is obligatory under the hope of futurity, would cease to be, practically so, under the certainty of extinction. But the case is not fully described yet. Suppose it to have been *always* positively known that there was no future for man, what a hell would this earth *now* be! we must then deduct all the good that has accrued from the belief of a future state from the beginning of the world; all the benefits of religious education and religious obligation; and then, if we suppose a few virtuous characters, the world around them would be a pandemonium, and the unbridled licentiousness of others would mar the enjoyments that virtue might otherwise impart. The ancient heathen had some hope and some restraint. In such a case, there would be neither. There would be little in the world but wickedness, or misery, ending in black despair. Where would be the call for duty, virtue, religion, under such circumstances? Those strong substantial principles in the human mind would have no object. Religion would not be even pretended, much less felt. Conscience would be an abortive principle; truth, justice, honour, little more than respectable names; those instincts only, which if uncurbed cause our misery, would flourish and have a solid foundation.

Recurring then to evidence derived from the full expansion of the mind, and connecting it with what has just been observed, the full extent of the influence of this "glorious hope" may be discerned. That influence reaches from the lowest point of moral degradation to which human nature would fall under a certainty of annihilation, to the highest point of elevation to which the lively belief of a future state raises the moral man.

Now the inference we draw from this fact is one of experience; first, as respects all other animals; secondly, from the general skill displayed in the creation. Taking into view the whole range of animal life, as far as it is known to us, there is not one species which fails to attain the perfection of its nature and faculties, or which derives that perfection from any fallacy. But man's mental faculties and passions are as much a part of his nature as the animal instincts:

it is incredible then that their integrity and full developement should depend upon a phantom, a delusion—most incredible when we consider the vast moral difference which would be made in human nature by the vivid belief, or the despair of a future state: that is by the truth being known. That cannot be real which would inevitably contract and wither any of our natural faculties; that cannot be fallacious which is necessary to their entire developement.

It is also utterly inconsistent with the consummate skill displayed in all the other departments of nature which we are acquainted with, that the moral plan should lead to every thing vicious and degrading, and disorderly, except for a delusive hope; for if there be no future life, the plan is to be accounted virtually the same as it would have proved, except for such delusion; and it surpasses human belief, that the Almighty Creator of the miracles of skill with which we are surrounded, should have been the author of such an unskilful and miserable plan, or of the crooked means by which it is now rendered at all availing to the developement of the human mind, or the present course of human events.

To these arguments derived from the almighty power and skill of the Creator, we add that derived from His goodness and truth. It is utterly repugnant to the smallest degree of these attributes to have contrived a plan which would be so immoral in its consequences, and so abortive of all good, except for a *delusion* which, in that case, His Providence ordained. This again would be procuring a certain quantum of morality through means that are immoral,—that morality to end at last in *nothing*.

There is one supposition, and only one, occurs to the writer, which apparently affects the preceding evidences. It has been suggested, that the whole great scheme of the Creator may be unintelligible and incomprehensible to the limited knowledge or even the faculties of man. This objection requires attention, because, if this were the case, it may be said that the moral part of the system might possibly be complete, although it should terminate here. We proceed, then, to investigate the grounds of this objection, and its consequences, should the conjecture be found to be wholly or partly valid.

SECTION III.—*Whether the Moral Scheme, if incomprehensible, may not be complete, although it terminate here.*

THIS conjecture is entitled to attention, because the acute and candid Butler has dwelt upon it; not to adopt it as an argument against a future state, for his whole purpose is to prove the truth of such a state. (See Anal. Part I. ch. vii.) But he uses it as an argument against those objectors that require everything to be elucidated here; as an apology for the mysteries and apparent inconsistencies of the present constitution of the moral world. In thus employing it, he has not sufficiently guarded against the inference, namely, that if the *whole* be so mysterious and inconceivable, perhaps the conclusion may be wise, and yet involve some inconceivable end or event, instead of the revival of man after death. In reply to this plausible objection, we do not deny but that the human scheme, whatever it be, may have bearings and connections of which we are entirely ignorant, and which, perhaps, we could not even conceive; but this is not the point to which the objection applies. The question is, not whether the moral system has other ends that affect man alone, but whether any ends can possibly be answered except by the completion of the scheme in and through man's revival.

Now we assert, that either the whole of the reasoning in our preceding chapters and their conclusions are fallacious, or there can be no scheme, conceivable or inconceivable, which terminates entirely in this life, that is consistent or skilful, or in anywise analogous to the admirable wisdom of the physical system. If the reasoning in those chapters was correct, it is in vain for an opponent to urge, that the moral scheme may be inconceivable, and that we cannot pronounce an inconceivable scheme inconsistent. We can positively say that certain parts of that supposed unknown plan are clearly known, and their nature so evident as to admit of demonstration, and that *they* require some consummation involving the revival of mankind: and we can also say decisively, that those known phenomena are incongruous provisions *under any supposition involving his annihilation.* What beings could it concern but mankind, that man was placed under such peculiar moral circumstances on this earth? That he was under a moral government *begun;* that he was, in various degrees, disciplined for happiness, but that his moral education was *cut short* in all cases ere he had attained all that his capacity was capable of; that he had a peculiar principle of *conscience* within him to guide him, but of no ultimate use. That he had strong *religious feelings* founded on a fallacious belief; that his greatest happiness here was indebted to *hope* of the future, the present never yielding entire satisfaction; that he had the *implied promise* of a future life, but not the performance. It could give no *pleasure to the Creator to survey a scheme like this*, especially as he must foreknow all he could witness. It could afford neither satisfaction nor example, nor indeed any moral lesson whatever to any creature, to observe such an abortive fragment of a system as the moral world would then present. Other beings might derive a lesson from a plan completed, but not one which was merely rudimentary. But could any connection between any other beings and our moral system be conceived, still that would not alter the fact, that certain parts of this plan are begun here, which parts are not completed; and to be otherwise than abortive, they must have some termination or other. Now, if the preceding evidence be valid; if there be a moral government begun; if life be discipline in intellectual and virtuous acquirements; if such be really the beginning of the moral system—there can be no finish, but a continuation or termination of the same designs; and mankind being the sole subject of *those* plans, they must be completed *in man himself*, or be incomplete for ever. For the contradictions to all analogy which have been described, which actually exist in the human mind, if there be no future state, appertaining wholly to the human mind, could not possibly receive any elucidation or correction, but through a consummation which affected that mind. Whatever other purposes might be conceived to be answered by the moral world, if completed (and there may be many purposes beside those that concern man himself), yet in case of his extermination, nothing would alter the fact, that man *was* an incongruous being—that his moral nature *was* an inconsistent system. And that which is *in itself* incongruous, cannot be rendered consistent or complete, but by something appertaining *to itself*.

An opponent may say, "Short-sighted worms cannot fathom the depth of infinite skill, nor consequently be sure that the Almighty could not devise some consistent termination to these phenomena besides man's revival." We must admit the truth of this assertion; but the moral scheme being palpably incongruous, *as far as this life extends*, the objection *must* involve one of the following alternatives:—Either that the Creator is necessitated to make one part of a system inconsistent, in order to complete another; or, that He purposely adopted the incongruities, in order to give mankind a delusive hope, and yet cared not enough for their happiness to give them the reality—a gift, to Him, as a drop of water. Both which suppositions have, at least, the merit of equal probability.

CONCLUSION.

If there be no fallacy in the proof of these several positions, it is morally impossible that human existence should terminate with this life. He who created the wonderful diversity of phenomena which water exhibits, all as useful as beautiful, from two simple gases: He who effected apparent impossibilities in the mechanism of light, and adapted the atmosphere to convey it, and the eye to receive it: He who adapted the mechanism of sight, smell, and sound, not only to the organs of sense, but to the chords of the human heart, is not a being to construct any incongruous *plan*. Beyond all question He has an end and purpose in all His designs; and if we be sure that end is not accomplished by this life, we are sure it will be completed in another.

Our principle, then, being admitted to be just, and the preceding assertions to have been proved, the inference is incontrovertible. This moral plan must have some wise consummation, and that consummation, however incomprehensible as a whole, must necessarily involve, as a part of the plan, the future existence of mankind.

For on what principle do we draw this conclusion? one that cannot fail—the evidence of facts: not inferences, for they might be illegitimate

—facts of experience are our solid foundation. As Butler justly observes, on the subject of Moral Government, that " an author of nature being supposed, it is not so much a deduction of reason, as a matter of experience, that we are thus *under His moral government;*" so we say it is a matter of experience that we have a capability of an indefinite increase in knowledge, and prudence, and virtue, and that when we have made the highest attainments in each, we cease to derive any benefit here. It is a matter of experience, that we have a conscience and deep religious passions, and that these are inconsistent with a termination of existence at death. It is a matter of experience, that the moral faculties are withered, or fully developed, generally, according to the hope of futurity; also, that this consummation has been virtually promised. On these facts we build the inference, and therefore we assert it confidently. Because no conceivable nor inconceivable end can alter facts—various views may affect arguments and inferences—new suppositions entirely change conclusions—a mere conjecture may overturn an elaborate and apparently valid proof, for it may throw a new light upon the premises on which it was built; but granting *facts* to be fully proved, nothing can alter them. This is our foundation, and there can be only one inference. The sole event to which these separate phenomena converge (affording us independent and cumulative evidence), is a future state. It is utterly incredible, then, that so much distinct evidence should meet and accord in a mere delusion.

As to any physical difficulties which our poor faculties attach to our revival, we may trust that the Creator of light, water, the atmosphere, &c., is able to overcome them; but as these apparent difficulties are probably among the most prevailing causes of distrust, I will repeat what has been briefly observed on the subject.

He who can give life, can certainly restore it. That we know not how this will be done, is no more argument against the fact, than the *à priori* denial that different substances could not occupy the same point in space, would have disproved that fact. For millions of rays of light and colour, direct, refracted, and reflected; particles of odour, of air, of water, of electricity, of magnetism, vibrations of sound, and numberless substances, mixed with the air, meet at every conceivable point in the atmosphere, and yet do not impede or confuse each other in the least; and this is equally difficult to conceive, whether on the theory of emanation or undulation. And this is a much greater natural difficulty than the revival of a human being. If pure spirit, it is a mere liberation. If matter, nothing is easier to imagine than the restoration of that same structure (with an imperishable substance), which constitutes consciousness. It is but to place such a structure, if material, *any where within infinite space*, and the same conscious being lives again, and without any actual transfer. Or supposing it necessary that the identity be preserved by a portion of the same substance, as well as the same mind, then a particle as small, and as incorruptible as a particle of light, might be the germ of a spiritual body, just as, probably, an atom not visible to the naked eye contains the vital principle of the natural body.

Leaving these difficulties of finite mind to the skill and power of an Infinite Mind, we should do well to confine our attention to the *fact*, and especially to our means of belief in that fact; for, as we are expressly told that faith in the Christian revelation is not to be obtained by a carnal heart through the exercise of the understanding *only*, so have we reason to conclude that a gross sensual mind is incapable of a lively belief in the natural evidence of a future state. There is something so spiritual even in the natural doctrine, that a mind in proportion as it is weighed down by the things of sense is dull in admitting it. The judgment may be convinced, and yet, if the feelings and passions have no corresponding affinity with the truths in question, man will not be impressed by the conviction of his judgment, but will hold it as a speculative truth which he cannot deny, but which convinces him not. The practical inference, then, that we draw from this lamentable frailty of our nature, is momentously important. It is a fearful consideration, that a sensual or otherwise worldly mind is depriving itself of conviction of that truth, whose deep impression is the only means of its recovery and happiness. The judgment may be convinced, but the principle which alone governs the conduct may remain unconvinced; and the truth that comes home to the former, may rebound from the latter like a leaden bullet from a plate of iron, and leave no impression. It is in this sense that Sir James Macintosh says, truly, that good morality is the basis of religious impressions. That is, when some strongly exciting natural cause, arresting an immoral mind, has at length produced a decisive change of conduct and pursuits, that change of conduct brings heartfelt satisfaction, and that purer happiness produces a sincere love of God, and earnest desire for the continuance of His favour; at the same time the experience of this change confirms the convert's faith. Yet all may proceed from the grace of God working through natural means, and in the order of nature. How unspeakably important then, whether as a means of a stronger faith, or of a disposition more adapted to the happiness we hope for, is an intellectual and virtuous mind!

It may possibly have occurred to the reader that death is not just such a means of transfer to another state as we might have expected on *à priori* principles. Death itself may appear to him as the great objection to a hope of the future. It may be thought, that by so violent a termination, we are wrenched from all our previous modes even of innocent pleasures, and suffer so much in that dreadful laceration, that the very springs of future enjoyment seem to be destroyed.

I am far from saying that the Almighty might not have removed us from this life without such a change; or, that death might not have been preceded and softened by a gradual insensibility; and if we are not designed for something for which the pangs of death are cheaply purchased, it would probably have been thus. But granting there might have been other means of such a change, the question is, whether this means, so far from defeating or being inconsistent with any future enjoyment, does not directly promote it—is not necessary to the end we hope for?

It is true, we are wrenched from life; but from what part of our being, our nature, are we wrenched? From the love of all things carnal and sensual, or otherwise sinful; not surely from the love of anything intellectual, and spiritual, and virtuous. That there is, indeed, a violent wrench from the former is evident; but was it not to be expected? Is it not natural? Is it not right?

The generality of men being sinful, sensual, and worldly characters, is not death accounted for by this, and ought not death to be a dreadful laceration of the mind? How shall a sensual corrupt mind (and all retain some of the old leaven) be entirely weaned from affections for which the future affords no counterpart, and made fit for a life of pure and spiritual happiness, but by going through such powerful impressions as this change alone can give of the vileness of all evil affections? A dozing into another life would not effect this. The man would not perceive the full evil of his sinful heart. The violent disruption and annihilation of the evil nature is a lesson that the best, perhaps, have need of, and which gives us the only hope for the wicked; when, in that extinction of their most violent passions, they then clearly see, if not before, that they have cherished so many demons in their hearts. But, I repeat, the virtuous affections do not experience such a wrench. The love of near and dear relations and friends does not perish, but is sometimes increased at the period of departure. With regard to those sentiments, it is not apparently a wrench, a destruction, but a sleep, a repose, an interval: higher thoughts have naturally the ascendancy, then, but there is no diminution of all the natural and virtuous affections that ought to survive—of all that in a future state is calculated to contribute to our happiness.

If then it has crossed the reader's mind, that a means of removal from this life, which would assure us all of another life without involving a knowledge of the kind of award, or of the state to which each individual was about to enter, would have been preferable to the violence of death; that it would have excited the hopes and fears of all without any contingent evil consequence, we admit that many such ways might have been adopted by Him whom no difficulties can foil; for instance, some kind of translation. But two things were to be accomplished: first, the corruptible could not inherit incorruption; the perishing body, which is adapted only to an animal existence, just such as the present, must be left behind. This is one end obtained by death. But by far the most important point was to give a deep, indelible impression of the vileness of sin; and there is in approaching death, as death is now, a power of impressing this on the mind, *sui generis:* not even dangerous disease, not even hopeless disease can approach to the awful impression that impending death strikes to the heart. The difference in the relative power of impression between expected death and actual dying, may be seen strikingly in the state of mind of a criminal under sentence of execution. Multitudes of such miserable beings have remained quite hardened up to a period more or less remote from the awful hour, according to the relative strength of nerve, or natural defect of imagination. But few, few indeed, arrive in that state under the fatal beam. The spirit is bowed down before the awe of death itself. Confessions are made, and a change of the man is then, in almost all cases, apparent in a few hours.

The best of mankind would be the most ready to accord with the wisdom, nay, the goodness of the present dispensation, and be willing to be made thoroughly sensible, by any means, however severe, of the exceeding sinfulness of sin. They would desire to have the very last remnant of the love of it wrenched from their minds—to see its vanity and wickedness in the most forcible manner in which they can be conveyed to the human understanding; that they may be ready with their whole heart, soul, and spirit, to glorify the God of all purity and holiness. And if such a deep impression of the vileness of sin be needed, perhaps by the best, how necessary, how indispensable for the generality of mankind!

No transfer to another state we could imagine, that did not previously lacerate and destroy the flesh, the very principle of sin, would teach mankind as death can teach. In another mode of departure, there could not be that awful and indelible impression that death alone can make in a few hours in the spirit of all but the entirely hardened,—the deep conviction that the whole body of sin is damnable. And we are sure such an indelible impression must be made either here or hereafter, on every one that is admitted into the happiness of another world.

To the question, what light the preceding evidence throws upon the nature of that future state, we can return a very decisive, although a very limited reply. This evidence clearly indicates that there will be a consummation of that *same* moral scheme which is begun, but not terminated here. A completion of the same plan is as surely indicated as the plan itself. Do we infer that there will be a future state, because of the evidence that a moral system is begun, and because in every physical work of the Creator we discern a completion of the design ? On the same principle, and just the same evidence, we infer that this imperfect and unfinished scheme of the moral world will be completed, and, therefore, that unforsaken sin will be followed by its legitimate measure of suffering. In this inference revelation also accords. It is for forsaken sin only that the Atonement is availing.

Again : Do we infer that there will be a future state, because we are here placed under moral discipline, or in a state of probation ? On just the same evidence we conclude, that the same discipline will be followed by that kind of consummation for which this discipline is naturally calculated to fit or entitle us. But from the exceeding inequality and apparent incompleteness of the discipline or trial to which many men are here subjected, we should certainly infer, on natural principles, that there would be some other state previous to an ultimate award either of misery or happiness. This is a point, however, which it appertains to revelation only to decide : all we can ascertain from natural evidence is, that unrepented and unforsaken sin will as certainly be followed by suffering hereafter, as that there will be a future state: for the two conclusions stand precisely on the same basis. Respecting the degrees of suffering, we can only infer from natural evidence that the measure will be justly apportioned to the guilt or depravity of the individual, whether the suffering be penal or corrective. And, therefore, we should conclude that the suffering is not at once intense and endless, in any case, nor equal in cases which differ materially in the degree of delinquency. On this point, however, our proper guide is the revealed word of God.

The principal purport of this treatise has been to point out the natural evidence of a future state, and the one simple but awful inference, viz., that unrepented sin here must be followed by suffering hereafter, either ultimate or corrective. Nor can we suppose for a moment (should the latter view of future suffering be scriptural, as some have contended) that a hope of final deliverance will be permitted to defeat the purpose for which it is inflicted. It would not lighten the heart-subduing agonies of the felon, about to suffer on the scaffold, that the king had *secretly* decreed to send a respite at the last minute. Should that interpretation of Scripture be true, it cannot be supposed that the Almighty will permit any sense of ultimate deliverance to defeat the full measure of that suffering which may be necessary to reclaim each individual. How great that may be, in certain cases, we may judge from the fact, that some natures are so hardened as to undergo the extreme punishment the laws can inflict without any symptoms of true repentance. On these mysterious and collateral subjects, I have only to state the bearing of the natural evidence, briefly and doubtfully. One fact, and one inference only, we can draw with absolute certainty. If there be any validity in analogy, as a means of ascertaining truth; if there be any end or purport in the moral world; if the noblest portion of the Almighty's work on this planet be not planless; if the scheme, which naturally crowns the whole, for which the physical system was, to all appearance, chiefly constructed, be not a mere abortion, *there is a future state for man;* and on the same evidence, we infer that *unforsaken sin will be followed by suffering hereafter.*

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INDEX.

Page
ALDINE Edition of the British Poets .. 7
Anderson's Annals of the Bible 3
Andrews' Private Devotions 9
Anglo-Saxon & Anglo-Norman Works 19
Apostolic Age in Britain 8
Bacon's Works, by Basil Montagu ... 14
——— Essays, by Ditto 13
——— Advancement of Learning .. 13
——— Novum Organum 13
Bell's Gibraltar 13
Beltz's Order of the Garter 15
Berners, of Fysshinge with an Angle.. 13
Boone's Man's True Interest.......... 18
Borgias, a Tragedy 12
Bourne's (Vincent) Poems, Lat. & Eng. 10
Bowes's Synopsis..................... 16
Bowles's (W. Lisle) Poems........... 11
Bridgewater Treatises 6
Browne's National Bankruptcy 18
Burge's Temple Church.............. 17
Byres's Etrurian Antiquities........... 16
Chaucer's Canterbury Tales, &c...... 12
Claims of Labour 6
Coleridge's (Samuel Taylor) Works .. 8
——— (Sara) Phantasmion 8
Common Prayer, Books of ...... 1 and 2
Cory (Isaac Preston) Works by 14
Courtenay's Future States 18
Coxe's Hymns from the German...... 10
Crabbe's Natural Theology............ 18
Croesus, a Tragedy 12
Cynosure, by the Editor of the Carcanet 12
Dance of Death, by Douce 11
Daniel's Modern Dunciad, &c......... 18
De Vere's (Sir A.) Song of Faith, &c. 18
Diamond Classics...................... 18
Donne's (Dr.) Devotions 9
Drummond's Noble British Families.. 5
Durer's (Albert) Passion of Christ 11
Dyce's Specimen of English Sonnets .. 11
Early English Dramatists, by Dyce .. 11
Early English Poetry, edited by Wright 11
Early Prose Romances, edited by Thoms 11
Essays in the Intervals of Business .. 6
Felltham's Resolves.................. 9
Festus, by Bailey..................... 11
Fisher's (R. T.) Three Poems 12
Fitchett's (John) King Alfred 10
French's History of England.......... 16
Fuller's Holy and Profane State, Holy
  War, Good Thoughts, &c.......... 9
Gibson's Tynemouth 6
Goethe's Faust, Part II. 18
Gray's Works, edited by Mitford 10
Green's Hunterian Oration............ 13
Grinfield's Greek Testament 4
Guest's English Rhythms.............. 6
Haweis on the Reformation.......... 9
Henry's Events of a Military Life..... 13
Herbert's (George) Poems and Remains 9
Holbein's Illustrations of the Bible 11
Homeri Ilias Græcè, Brandreth 17
Horace, by Howes.................... 17
Horapollo Nilous, by A. P. Cory 14
Household Books 17
Howard's Science of Drawing 13
Huber's English Universities.......... 14
Humphreys Electro-Physiology of Man 17
Italian Classics........................ 18
Johnson and Walker's Dictionary 16

Page
Juvenal et Persius 17
Kant's Critick, Analysis of............ 14
Keeling's Liturgiæ Britannicæ 3
King's (Bp.) Poems.................... 18
——— Early Ballad Poetry.......... 10
Lathbury's Nonjurors 10
Liturgical and Biblical Works........ 3
Lloyd's Xanthian Marbles............ 16
Lucretius a Creech 17
Lyte's Poems 12
Macray's British Historians 14
Malthus on Political Economy 10
Marsden's Hulsean Lectures.......... 14
Maskell's Monumenta, &c. 3
——— Martin Marprelate....... 10
Merivale's Poems and Translations .. 12
Metcalfe on Caloric 7
Methuen's Poems..................... 18
Millers's Ely Cathedral................ 15
Montagu's (Basil) Selections, &c...... 12
Montagu's (J. A.) Heraldry 15
Morell's Philosophy 5
Moultrie's Poems..................... 10
Newton's Heraldry.............. 15
Nicolas (Sir Harris), Works by 17
O'Brien (Edward) The Lawyer 9
Outlines of the Laws of Thought...... 12
Oxford University Statutes........... 14
Phillips on Angling.................... 13
Physical Theory of Another Life...... 8
Piers Ploughman, edited by Wright.. 10
Piscatorial Reminiscences 13
Poems, edited by the Dean of Exeter . 10
Ramsay on Human Happiness........ 13
Richardson's Dictionaries............. 5
Roberts's History of Letter-Writing .. 13
Roberts's Spiritual Creation.......... 18
Robinson's Scripture Characters 14
Sanctæ Vigiliæ......................... 17
Sandbach's (Mrs. H. R.) Poems, &c... 12
Shadwell's Homer 17
Shakespeare's Plays, 1 Vol. 12mo. 11
Shaw's Illuminated Works............ 16
Shirley's History of Farney......... 13
Sibbes's Soul's Conflict & Bruised Reed 9
Sidney Correspondence........... 5
Skurray's Version of the Psalms, &c. . 18
Small Books on Great Subjects 15
Smyth's Lectures, &c. 5
Snow's Tour 6
Solari's Letters 13
Supplicacyon for the Beggers 10
Surrey and Wyatt's Poems........... 11
Table Talker, from the Morning Post 14
Tatham's Bampton Lectures 18
Taylor's Holy Living and Dying...... 9
Testament, The New, by a Layman.. 13
Thomson's Seasons & Castle of Indolence 11
Virgilius, foolscap 8vo................. 17
Waller's Brasses....................... 19
Walton's Angler, by Sir H. Nicolas .. 6
Watkin's Pleasure of the Mind........ 13
Watson's (J. S.) Geology 18
White's Fragments of Italy, &c. 6
White Lady and Undine 8
Whole Duty of Man.................. 8
Willement's Heraldic Works 17
Works preparing for Publication. ... 4
Wotton's (Sir H.) Poems 11
Zareefa, and other Poems 10

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